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ABSTRACT

This evaluation report on the North Carolina Pilot Kindergarten Program covers the 74 local educational units involved in the program for the 1972-73 school year. The first part of the document is narrative, including (1) an historical perspective from the program's beginning in 1969, (2) discussion of philosophy, objectives, and guidelines, (3) specific program description (scheduling, activities, classroom layout, etc.), and (4) information about the staff. The major commitment of the project is to respond to the widely varying needs and talents of individual children rather than to any one ideology of early childhood education. Early in the program, teachers were encouraged to observe their children, and design their own classrooms and curriculum plans accordingly. The second part of the document is concerned with the evaluation effort. There are sections on purpose, history of evaluation in the North Carolina system, procedures and measurement instruments used, evaluative analysis, and vital research needs and issues relating to the program. Measures involved assessed child, teacher, and family variables, and conclusions about program effects were generally positive. (DP)

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NORTH CAROLINA

PILOT KINDERGARTEN PROGRAM

FOURTH ANNUAL EVALUATION REPORT

PS 007213

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North Carolina Pilot Kindergarten Program

SUMMARY

In 1969 the North Carolina General Assembly appropriated $1 million for the establishment of the first state-supported kindergarten programs in North Carolina. Two classrooms were set up in eight schools located in each of the state's eight educational districts.

Children first entered the centers in early December 1969. In 1970-71, 10 additional centers were selected, making a total of 18 state-supported kindergarten centers in North Carolina. Teams of principals, teachers and assistant teachers from grades K-3, special education personnel, and supervisors came together for one month for staff development activities. The focus was not only on the kindergarten, but on the influence kindergarten has on the primary years. The staff development component has been continued throughout the pilot program.

In 1971, the General Assembly continued support of kindergartens and increased its commitment to early childhood education by appropriating $4.3 million. Thirty-six new schools were selected--making a total of 54 early childhood centers. Twenty new centers were added to the program in 1972, bringing the total to 79 centers in 74 school districts across the state.

The most significant new development during 1972-73 was action taken by the General Assembly to make state-supported kindergarten

programs available to all five-year-old children in North Carolina by 1978. There are approximately 700 new kindergarten classrooms for the 1973-74 school year; therefore, the 1973 summer training efforts involved approximately 2500 K-3 teachers and teacher assistants and about 500 principals.

Throughout the evolution of the early childhood education program in North Carolina, there has been one overriding consideration--the needs of children. The program has progressed through various stages of identification: British Infant School approach, individualized instruction, open education, and child-centered education, among others, as the program decision-makers attempted to identify an ideology that would best meet the needs of our children. However, as the program has progressed through four years of an intensive pilot study, it has become evident that any attempt to label the program is antithetical to the concept of enhancing the growth of individual children.

North Carolina is cognizant of the need to improve the educational experiences offered to children. Traditionally, many educational practices in our schools have not been in agreement with what is known about young children. Schools have attempted to "school" all children in the same way at the same time.

Early in the history of the program teachers were encouraged to observe their children and to design their classrooms and make their plans in accordance with their observations. Emphasis was placed

at the classroom level, and it was soon evident that successful classrooms were not always the same type, depending on the children and the teacher.

The North Carolina early childhood education program seeks to respond to each child's unique talents and to supply the necessary resources that allow individual children to progress at their own rates and in their own styles. The philosophy of the program asserts that the regular classroom teachers can effectively provide meaningful learning experiences for all children with the exception of the severely handicapped. The state's commitment to this philosophy includes both the prevention and remediation of educational handicaps in children in the primary grades and the avoidance of inappropriate placement of children in special classes. An enlightened plan for the early childhood education was designed which speaks to the development level of the preschool child and provides continuity into the primary years.

Because of the many individual characteristics of the children in the state program, evaluation and assessment are continuous and ongoing processes and involve the cooperative efforts of the child, the teacher, and the parents.

The program philosophies support the integrated day approach which allows flexibility in the amounts of time needed by each child to pursue his interests and consequently to extend his learning without isolating specific subject areas. Traditionally, schools have been

comprised of artificial barriers both in subject areas and time periods. The teacher is the provider and leader and is open to suggestions from the children and is very much aware of the responsibility to each child in the group--whether this is a self contained unit or a cooperative teaching unit.

The classroom is based on the identified interest and needs of the children. The classroom is divided into various interest areas whose activities and facilities are not isolated from each other. The classroom is the center of the learning environment; but, the classroom may open to include the playground, or a small garden plot just outside the room, or the school kitchen, or the library, or the principal's office and may also extend to include the community and its particular environment. The interest areas continuously evolve as the year progresses. The children move among the areas as their interests dictate, with teacher intervention when extension of an activity is possible. There are two or three quiet spots in the room where children can just relax and be alone.

One hundred and forty-eight (148) teachers, each with a teacher assistant, were involved with the program last year. The basic teaching team unit was one teacher and one assistant; but the units were utilized in various ways. All of the participating staff members received training to prepare them for working with young children. Also, each team had ready access to follow-up assistance from or through the regional coordinators.

The teacher leads the teacher/teacher assistant team. The assistant works closely with the teacher in all aspects of preparing, maintaining and implementing the learning environment for young children. They are not the dispensers of knowledge; they are the facilitators of learning through the management of the environment. A primary responsibility of the teacher is to assure that each child will be fully engaged in activity for as much of the day as possible, to encourage the active exploration of the environment by the child, and to extend learning as much as possible with the individual child.

The teacher values the characteristics of each child and seeks to enhance growth utilizing the child's strengths and interests. Children are encouraged to become involved in meaningful activities as determined by their interests.

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EVALUATION

Part 1:

Conclusions:

1. It may be concluded, based on the data from the pre- and post-test administrations of the Draw-A-Man Test, that children involved in the North Carolina kindergarten program will gain approximately two months in mental age for every one month of involvement in the program.

2. The available data also indicate that children have made larger yearly gains during the last two years of the program. There are two factors contributing to this conclusion: (a) greater sophistication in administering the test due to better instruction during the summer institutes from LINC staff; and (b) better overall staff development via the summer institutes and follow-up training sessions.

3. Five-year-old children who participated in the North Carolina Kindergarten/Early Childhood Education Program for the 1972-73 school year progressed from a mean raw score of 16.7 (37th percentile) on the TOBE* Language at the beginning of the year to a mean raw score of 22.4 (76th percentile) in the post-test for a gain of 39 percentile points.

4. The participating five-year-olds advanced from a mean raw score 16.8 (34th percentile) on the TOBE* Mathematics pre-test to a

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* Test of Basic Experiences

post-test score of 21.6 (68th percentile). This indicates an increase of 34 percentile points.

5. Greater change scores (gains) were realized on the Language subtest for three of the four years of the pilot study than on the Mathematics subtest.

6. At the end of the school year, participating children scored in the upper one-third of the national percentile rankings on both the language and Mathematics subtests for the last two years of the pilot program.

7. It may be observed that there was significant (.001) positive change on all three subscales of the CBI* for the participating five-year-old students. It may, therefore, be concluded that participants in the fourth year of the kindergarten program: a) show more extroverted behavior (this is to be interpreted as less introverted: i.e., shy, withdrawn) at the end of the year than at the beginning; b) appear to be more considerate and tolerant of others at the time of post-testing than at pre-testing; and c) appear to complete more initiated tasks at the end of the year than at the beginning.

Part 2:

Introduction:

Through Q-mode factor analysis and discriminant function analysis procedures the children and the teachers from the twenty centers new to the program were grouped in accord with the patterns

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* Classroom Behavior Inventory

of their responses to the items in the appropriate instruments. Four response patterns were identified for the 753 children in the sample, and three patterns emerged for their 38 teachers. For the purposes of this discussion, the children groups will be designated Groups 1, 2, 3 and 4* and the teacher groups will be Groups A, B and C.*

The four groups of children have been compared in regard to their mean change scores on both achievement tests and noncognitive measures.

Conclusions: (The reader is cautioned that these conclusions are based on mean changes, only. There have been no adjustments made for intelligence or preschool achievement.)

a) The children in Group 4 made the largest positive change on both the Language and Mathematics subtests.

b) The children in Group 1 made the least positive change on the Language subtest.

c) The children in Group 2 made the least positive change on the Mathematics subtest.

d) Group 3 made the largest positive change on the Extroversion/Introversion subtest. Group 2 had a small negative change on this subtest.

e) Group 2 made the largest positive change on the Social Behavior subtest and Group 3 had the smallest change. All groups had positive changes.

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* See page 87 for explanations.
** See pages 94-95 for explanations.

f) Groups 2 and 3 made large positive changes on the Task Orientation subtest. Groups 1 and 4 had much smaller changes; however, all four groups did move in a positive direction.

g) Overall, Group 1 children appear to have benefited least from their kindergarten experience.

The children in the study have been grouped according to the type of teacher they had last year -- a) child-centered classroom teacher; b) restricted classroom teacher; and c) (not labeled at this time). These three new subgroups of children have then been compared according to their mean change scores on both achievement tests and noncognitive measures.

Conclusions: (The reader is cautioned that these conclusions are based on mean changes, only. There have been no adjustments made for intelligence or preschool achievement.)

a) The children taught by the Group A teachers (child-centered classroom teachers) in our study indicated the greatest positive changes on the TOBE: Language and Mathematics subtests.

b) The children of both Group B and C teachers (restricted classroom teachers and the unlabeled teacher group) appear to have similar changes on both subtests with the greater changes on the Language subtest.

c) The children of the Group B teachers made the greatest positive change on the Extroversion/Introversion subscale and the children of Group C teachers made the least change. Children in all three groups made positive changes.

d) On the Social Behavior subscale, the children of Group A and Group B teachers had positive changes with Group B having the greatest change. Scores for Group C children indicate a negative change on this subscale.

e) Scores on the Task Orientation subscale indicate that all changes were in a positive direction. Group B childrens' scores indicate the greatest change, and Group C childrens' scores indicate the least change.

f) The children of the Group B teachers made the greatest positive changes on all three subscales of the noncognitive measures.

g) The scores of the children of Group C teachers indicate that these children make the least achievement and noncognitive gains during the kindergarten year of the children included in our study.

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November 1973

North Carolina

Pilot Kindergarten Program

Fourth Annual Evaluation Report

1972 - 1973

Prepared By:

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November 1973

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I wish to thank all of those involved in the Kindergarten/Early Childhood Education Program -- including Early Childhood Regional Coordinators, State Department of Public Instruction personnel, Learning Institute of North Carolina staff, teachers, supervisors and principals -- who have contributed to my growth in perception and understanding of the program as it is being implemented in North Carolina. It would be impossible to mention all of the people on whose expertise and knowledge I have been able to capitalize, directly and indirectly, in writing the narrative of this report; however, without their individual contributions, this report would not be possible. I have tried always to note the direct contributions to this report, but these notations do not begin to represent the number of people who make this program, thus this report, a reality.

Especially, I would like to recognize Dr. W. G. Katzenmeyer of Duke University for helping to make the statistical analyses of Sample 2 a reality and Ms. Frieda Callison for assisting with the design of the cover of this publication.

Suzanne Triplett

October, 1973

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INTRODUCTION

The seventy-four (74) local educational units involved in the Kindergarten/Early Childhood Education Program contracted with the Learning Institute of North Carolina (LINC) to evaluate the North Carolina State-Supported Early Childhood Demonstration Centers. Preparation of this final evaluation report for the 1972-73 school year was performed by LINC. Numerous sources were used for the narrative sections of this report; they include literature submitted to LINC by Ms. Gill Walsh, State Coordinator of Early Childhood Education Staff Development, Ms. Suzanne Triplett, Program Consultant for Evaluation of Early Childhood Education, and Mr. James Jenkins, Director of the Division of Kindergarten/Early Childhood Education of the State Department of Public Instruction, as well as reports from or discussions with the Early Childhood Education Consultants from the State Department and LINC, the eight Early Childhood Regional Coordinators, and the Special Education Coordinator. Information was also obtained from on-site visits, correspondence, and telephone discussions with teachers and principals.

PART I

NARRATIVE

Chapter 1

HISTORY*

In 1969 the North Carolina General Assembly appropriated $1 million for the establishment of the first state-supported kindergarten programs in North Carolina. Two classrooms were set up in eight schools located in each of the state's eight educational districts. Guidelines stated that the program would (a) establish kindergartens, (b) provide teacher education, (c) involve parents, (d) coordinate with other agencies, (e) evaluate the instructional program and (f) disseminate information concerning the project.

In the summer of 1969, the Learning Institute of North Carolina sponsored a month-long Early Childhood Education Study Conference at the Eliot-Pearson Child Study Center, Tufts University, for administrative leadership from various interested school systems, universities, and the Department of Public Instruction in North Carolina. In September of that year, a two-week workshop was held in Greensboro for teams of persons (principals, kindergarten teachers and assistants, supervisors, and superintendents) from each of the eight local educational agencies participating in the original pilot program. Upon completion of the workshops, these persons returned to their local schools for two months of on-site planning and preparation.

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*Chapter 1, "History", has been adopted from various documents written by the author for the Learning Institute. Data were made available through the State Department of Public Instruction, LINC and various other sources.

Children first entered the centers in early December 1969. In 1970-71, 10 additional centers were selected, making a total of 18 state-supported kindergarten centers in North Carolina. Again, training was held for all 18 schools. Teams of principals, teachers and assistant teachers from grades K-3, special education personnel, and supervisors came together for one month at either of two locations -- one in Eastern and another in Western North Carolina. The focus was not only on the kindergarten, but on the influence kindergarten has on the primary years.

In 1971, the General Assembly continued support of the program and increased its commitment to early childhood education by appropriating $4.3 million. Thirty-six new schools were selected -- making a total of 54 early childhood centers. Due to this dramatic increase in the number of schools, additional funds were sought and obtained from Federal sources and special state allotments for continuing the staff development effort. To give adequate support to the new schools, eight regional staff development centers were established -- one to be located at a school in each of the eight educational districts.

Early childhood regional coordinators* were hired to direct a summer training institute at the staff development center site, or at a college or university, and to provide follow-up assistance throughout the year to the schools within their respective districts. A state coordinator of early childhood education staff development was attached to LINC.

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* The early childhood regional coordinator position was originally designated as a staff development coordinator. However, with the expansion of the early childhood education program the responsibilities of the position have changed to include administrative and management duties as well as staff development responsibilities; thus, the position title has been changed to reflect these expansions. This report will use the current nomenclature.

Each coordinator served five to seven schools within his/her district. Approximately 600 persons came as teams from these 54 schools to the summer institutes held within the respective districts.

Twenty new centers were added to the program in 1972, bringing the total to 79 centers in 74 school districts across the state. Approximately 800 persons came as teams from these 79 centers to the 1972 summer institutes. Some major emphases of these institutes were team communications, the basic theories underlying early childhood development, and innovations in curriculum.

One of the strongest points of the training program was the opportunity to set up an informal classroom so that participants could implement the concepts of personalized instruction with children, including exceptional children integrated into the regular classroom. The special education coordinator (funded in 1972 in a grant to Gaston County by ESEA, Title III, Section 306, to assist with the staff development in the four western districts) and special education resource teachers were on hand during the summer, as well as during the school year, to work with children with special problems and to lend expertise to the regular classroom teacher.

From the outset, a special team relationship has developed among participating school systems, colleges and universities, the State Department of Public Instruction, LINC and the early childhood regional coordinators. Universities have awarded course credit for the summer programs, housed participants, and provided consultants and student teachers. The State Department of Public Instruction and LINC have secured funding,

furnished personnel for summer institute staffs, and provided technical assistance throughout the year. The early childhood regional coordinators facilitated the coordination of these various efforts. Under the leadership of the coordinators, schools, too, truly have developed teams, i. e. principals as well as teachers, are very much involved with children. Teachers plan together, visit other schools, attend workshops, and bring back new ideas for the entire school staff. The summer institutes and the follow-up activities have been spearheaded by the early childhood regional coordinators.

The most significant new development during 1972-73, was action taken by the 1973 General Assembly to make state-supported kindergarten programs available to all five-year-old children in North Carolina by 1978. There are approximately 700 new kindergarten classrooms (23-26 children, a teacher and a teacher assistant) for the 1973-74 school year; therefore, the 1973 summer training institutes involved approximately 2500 K-3 teachers and teacher assistants and about 500 principals.

Throughout the evolution of the early childhood education program in North Carolina, there has been one overriding consideration -- the needs of children. The program has progressed through various stages of identification: British Infant School approach, individualized instruction, open education, and child-centered education, among others, as the program decision-makers attempted to identify an ideology that would best meet the needs of our children. However, as the program has progressed through four years of an intensive pilot study, it has become evident that any attempt to label the program is antithetical to the concept of enhancing the growth of individual children.

North Carolina is cognizant of the need to improve the educational experiences offered to children. Traditionally, many educational practices in our schools have not been in agreement with what is known about young children. Schools have attempted to "school" all children in the same way at the same time and have forced five- and six-year-old children into unnatural situations, i.e., sitting at desks for long periods of time with little social interaction with their peers.

Early in the history of the program teachers were encouraged to observe their children and to design their classrooms and make their plans in accordance with their observations. Emphasis was placed at the classroom level, and it was soon evident that successful classrooms were not always the same type, depending on the children and the teacher.

This report has attempted to avoid identification with a given ideology. Much of the narrative coincides with discussions in current educational literature of open education or British Infant Schools; however, we believe that the North Carolina program is establishing a unique pattern of development. To identify with a given label imposes a predetermined notion of the program -- a fallacious assumption. Pedagogical references have been utilized in this report only when terminology was specific and self-defining; e.g., "integrated day"* -- it allows flexibility in the amounts of time needed by each child to pursue his interests and consequently to extend his learning without isolating specific subject (matter) areas.

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* See page 14 for the discussion of the integrated day.

Chapter 2

PHILOSOPHIES AND GUIDELINES

(The discussions in Chapters 2 and 3 do not intend to imply a model for "the" classroom in the North Carolina Early Childhood Education Program but are presented for constructive purposes to aid the reader in understanding the program.)

Children come to school with a variety of skills and needs, and each classroom is, therefore, different. It seems safe to assume that what will work in one situation may not work in another. In a 1972 address to the principals of schools in North Carolina with kindergarten/early childhood centers, John Coe, Senior Advisor for Oxfordshire Primary Schools, England, stated that "the rhythm of a classroom must reflect the rhythm of the children" therein. This quote summarizes very nicely beliefs about educational goals and methods as they are evidenced in the state's early childhood education program. Schools exist because of children, therefore, all that occurs within schools must be for children. Goals -- be they overall educational goals or individual classroom goals -- must relate directly to the needs of the children. Methods, if they are to be successful, must respond to Coe's "rhythm of the children."

The goals, methods, and research discussed in this report, while not promoting a predetermined program, proceed from some basic assumptions about children and schools including:

1. Even though there are similar developmental stages for all children, children come to school with unique combinations of skills, problems and learning styles.

2. Each child has the right to make choices concerning his or her own life activities and must be provided with a wide variety of alternatives upon which to base decisions.

3. Children will develop necessary basic skills -- reading, other communication skills and mathematics if provided a real purpose for the use of these skills.

4. Children learn best when they feel good about themselves.

5. Children are creative.

6. School experiences should foster positive attitudes towards a) self, b) other children, c) teachers, d) school, and e) learning.

The North Carolina Early Childhood Education Program seeks to respond to each child's unique talents and to supply the necessary resources that allow individual children to progress at their own rates and in their own styles. The following are goals for the early childhood school years:* Educational experiences (1) will leave unimpaired the curiosity and zest for living that the child has when he enters school for the first time; (2) will provide each child with a vast store of heterogeneous knowledge and experience that can later be classified, expanded and used; (3) should allow each child to develop many skills which can later be evaluated and perfected; and (4) should equip each child for the next step in his educational career.

A description of informal British schools by Charles Silberman in Crisis in the Classroom corresponds with the goals of the North Carolina Early Childhood Education Program:

> "Most teachers... were not just concerned with giving their students proficiency in the technical skills and mechanics of reading. They are equally interested in what the children

*Mellor, Edna. Education through Experience in the Infant School Years. Oxford: Basil Blackwell, 1953, p. 147.

> use their proficiency for, and in the pleasure they derive from it... And so most informal teachers and heads also reject the view that 'one piece of learning is as good as any other.' Their responsibility, as they see it, is to create an environment that will stimulate children's interest in and evoke their curiosity about all the things they should be interested in and curious about: reading, writing, talking, counting, weighing, measuring, art, music, dance, sculpture, the beauty and wonder of the world about them, relationships with adults and other children, and above all, the process of learning itself... It is also to teach the child what is worth knowing." *

Specific goals can only be outlined as the attributes of individual children are assessed -- their backgrounds, their existing skills and their personalities. However, these adult prescribed goals must not become the parameters for growth. Subtle changes occur and growth is made. Patience must be exercised when a child chooses not to visibly or measurably grow. Adults must be as patient and respectful of the intellectual growth of children as they are of physical growth; they are both natural phenomena that will occur if given proper nourishment.

The plan for statewide kindergartens has been designed to speak to the developmental level of the preschool child and to provide continuity into the primary years. In effect, this program considers good early childhood education to encompass the special needs of <u>every</u> child without isolating certain ones from the group for exclusive instruction. The teacher provides an appropriate learning environment, and is supported by the resource staff -- special education teacher, librarian, etc. In some instances there are resources beyond the regular teams, <u>i.e.</u>, parents, reading teachers,

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*Silberman, Charles E. <u>Crisis in the Classroom: The Remaking of American Education.</u> New York: Vintage Books, 1970, p. 240.

social workers and community agencies; but all assistance is integrated with the regular classroom activities of the children.

At the inception of the state-supported pilot kindergarten/early childhood education program in 1969, guidelines were adopted by the State Board of Education. The Early Childhood Division of the State Department of Public Instruction was established to implement and facilitate the guidelines within the centers funded through legislative appropriations. The Learning Institute of North Carolina was assigned the responsibilities of evaluating the pilot kindergarten program and of providing support in the areas of program and staff development. The eight regional coordinator positions were created to provide intermediary agents between the state-level organizations and the local educational agencies.

As the pilot early childhood program progressed with formative and summative evaluation of the over-all program made available to the program decision-makers, the State Department of Public Instruction and the Learning Institute of North Carolina and the regional coordinators were able to make immediate responses to the needs of the program. In 1973 at the end of the pilot kindergarten effort and at the beginning of a state kindergarten/early childhood education program, the State Board of Education adopted a new set of guidelines which evolved throughout the four years of the pilot efforts. These guidelines presented in Appendix A will continue to evolve as the program grows and as the State Department of Public Instruction, the Learning Institute of North Carolina and the coordinators seek to be always responsive to the needs of children of North Carolina.

Chapter 3

PROGRAM

Population:

North Carolina has approximately 86,500 five-year-old children eligible for the state kindergarten program in 1973-74. These five-year-old children are located from the Eastern coastal areas to the Western mountainous region, with the largest population centers located in the central piedmont. The approximate percentage of nonwhites is 22%, and the state's population is twice as rural as the nation as a whole. The five-year-olds are located on farms and in cities; they are black, white, Indian and 'other'; they are rich and poor -- economically and emotionally; they are the sons and daughters of migrants, sharecroppers, mountaineers, farmers, mechanics, grocers, bankers, lawyers, doctors, textile and tobacco entrepreneurs; they are from none, one- or two-parent families; and on and on. North Carolina's five-year-olds are heterogeneous -- they have different experiences, skills, needs and interests.

During the 1973-74 school year it is anticipated that 55% of the state's five-year-olds will be enrolled in kindergartens: 15,000 will be enrolled in kindergartens funded through ESEA, Title I; 17,000 will be in nonpublic kindergartens; and 16,000 will be enrolled in state-supported programs.

During the 1972-73 school year, 3,400 children were enrolled in the state's pilot kindergarten program. Of these 51.2% were male and

(NOTE: The above information was obtained from the Bureau of the Census and the State Department of Public Instruction.)

48.8% were female. The percentages of racial composition within the kindergarten population -- 29.0% black, 69.7% white; less than 1% Indian; and approximately 0.2% other -- compares favorably to the state's composition. About two-thirds of the children were older than five and one-half years old; one-third, younger.

Exceptional Children:

The philosophy of the North Carolina early childhood education program asserts that the regular classroom teachers can effectively provide meaningful learning experiences for all children with the exception of the severely handicapped. The state's commitment to this philosophy includes both the prevention and remediation of educational handicaps in children in the primary grades and the avoidance of inappropriate placement of children in special classes. An enlightened plan for the early childhood education program was designed which speaks to the developmental level of the preschool child and provides continuity into the primary years.

In order to expedite the incorporation of the concept of inclusion into the primary program, special assistance was provided the regular classroom teachers and the special education resource teachers during both summer institute and follow-up training. Demonstrations, workshops, and small group discussions emphasizing strategies for meeting the needs of exceptional children within the framework of open, multiaged classrooms are made available to all involved school staffs. The content of this training, within the overall staff development program, focused on attitudes

and expectations regarding the exceptional child, observational skills, prevention and remediation of educational handicaps, social relationships among children, child advocacy concepts, child development, and utilization of resources and family-school relationships.

Because of the many individual characteristics of the children in the state program, evaluation and assessment are continuous and ongoing processes and involve the cooperative efforts of the child, the teacher, and the parents. As the program has evolved, the observation of children has been recognized as one of the most important factors in determining the directions of a kindergarten classroom's program. Teachers must know a great deal about each child. The teacher's initial assessment should involve two aspects of the child: (a) background -- where does he come from, what is his family relationship, what are his previous experiences and interests; and (b) assessment of skills that he brings to school -- skills that are already there to be utilized and expanded for his individual learning process and/or for interaction with the group.

As the school year progresses, the teacher must be aware of the growth of the individual children so that appropriate responses may occur. Children are observed, and their growth -- intellectual, emotional, social and physical -- is facilitated by the teacher's management of the environment to meet the needs of the children.

The processes of continuous evaluation/assessment are performed in a manner subtle enough not to interrupt the learning that is taking place.

When, by necessity, it becomes an overt process, hopefully, it does not become a threat to the children. Competitive grading does not occur, as it is sincerely hoped that teachers remember that errors are necessarily a part of the learning process. Errors are expected and open the doors to further learning. (The value of making errors is often negated in classrooms by counting the number of errors in deciding grades, by negative teacher responses to errors, by making the right answer the best answer, etc.) The errors children make are respected as well as the "correct" responses.

Another important aspect of assessing children is that children learn at their own rates and in their own styles; therefore, assessment must be individually designed for the children and for the task. Children do need honest and responsible feedback on their actions. Just as they will respond to one another honestly and openly -- so teachers should react with their children, with the emphasis on the positive.

Interaction with parents may be at conferences either at school or in their homes scheduled at regular intervals or in response to special needs.

At the end of the day the teacher and teacher assistant discuss each child's involvement during that day. In the case of some children, special attention is given to specific problems or possible needs. Extension activities are discussed in respect to individuals and notice is taken of needed materials. Periodically anecdotal records are written about children to be included in their folders.

The Integrated Day:

(The following description of the integrated day is taken from a narrative written by Gill Walsh, the LINC British Consultant for Early Childhood Education and the State Coordinator for Early Childhood Education Staff Development. Ms. Walsh has worked with the North Carolina early childhood education program for two years in areas of program development, administration and staff development.)

What is it about the "integrated day" that makes it different? Basically, it allows flexibility in the amounts of time needed by each child to pursue his interests and consequently to extend his learning without isolating specific subject areas. Traditionally, schools have been comprised of artificial barriers both in subject areas and time periods. Where does language begin and end? Can reading really be confined to a reading circle? Children do not recognize making a model from boxes as a craft lesson and writing about their model as a writing lesson, unless this is imposed upon them. The one flows into the other naturally with a purpose for its being. In an unstructured integrated school day the underlying organization is essential to the successful working of the program.

The teacher is the provider and leader; she is open to suggestions from the children and is very much aware of her responsibility to each child in her group -- whether this is a self-contained unit or a cooperative teaching unit. She is ultimately responsible for the provisions within the area -- paper, pencils, paint, clay, books, etc., and unless plentiful supplies are available the children may respond negatively.

In a well supplied, bright, clean classroom what might the observer see and hear? At any time in the day, apart from the scheduled times such

as lunch (and the less scheduling the better), the children may be involved in a variety of purposeful activities. Some activities will be more self directed than others - a group constructing an airport in the block area - causing much discussion and a great deal of cooperation. Two children talking together about the young gerbils, expressing their awareness of the tiny creatures in a language filled with meaning for them. The teacher visits the two and having listened to the converstion for a short time asks if she can write down some of their words. They readily agree, and a short descriptive piece is added to "Our Book about Gerbils" and the two proceed to illustrate their writings.

Two children are exploring the properties of cuisenaire rods while three others are measuring a companion stretched out on the rug. "He's seven fir cones long" and "he's lots of bottle caps long." One child, able to write their words, records the activity. The teacher asks if they can count the bottle caps into piles of ten -- this they do and she moves on to the listening area where four children have headphones and are concentrating on a recorded story. Several children are discussing a book and one sleepy youngster is curled up in the armchair slowly turning the pages of a picture book. "Shall I read the story to you?" "No, I'm just looking," is the reply. She returns to the "bottle cap counters," and observes their various methods of counting. She discusses with them the results of their counting.

In the home center two children are involved in some dramatic play about witches, another child joins them and claims to be Hansel; they are dressed appropriately and suddenly the activity changes as one child declares,

"The baby doll needs something to eat." She mothers the baby doll and her two companions leave and take pencils, crayons and brightly covered, teacher-made books. They sit at a table and talk about what they will draw -- witches maybe!

Four children are modeling with natural clay, pummeling and battering the clay to release the air bubbles. One begins to shape the clay with careful fingers and the shape of an animal emerges. His pleasure is evident and he concentrates on his work.

At the sand table, as in other areas in the room, there is much discussion. Two girls have filled various containers with damp sand and proceed to turn out the "pies" on a board which bridges the sand table. They lift the board and carry it to show others near by. The teacher suggests they ask people to come by and look, rather than taking the sand to the people. "How many pies?" "Can we write a notice?" says Sharon. She writes her name and draws eleven pie shapes on a piece of paper and visits various groups with her notice.

"How do you spell mountain?" asks Rob holding up a word book to Miss Hutchins. Rob's word book is his collection of words, those he has used in previous writing - they are his own words and he can read many of them because there was a reason for needing them. He is helped with his word - "It is a long word" he remarks as he returns to his writing.

At the easel a large piece of paper is being laboriously covered in a beautiful mixture of color by a boy, wearing a "cover-up" (a cut down shirt) to protect his clothing. The teacher notices his painting, but doesn't interrupt his concentration. She talks to the clay modeling group and

reminds them to place their models safely on the drying shelf if they wish to keep them.

During the morning Andy and Karen prepare the snack. They count out twenty-six cups and place them with napkins and a plate of crackers on the round table. Karen carefully fills ten cups with juice and children begin to come by to take snack, sitting at the table or standing near. Conversations ensue, crackers and juice are consumed, and children return to activities. Andy calls to Rick that snack is ready; more cups are filled with juice as required, Andy and Karen taking their responsibility very seriously. Thirty minutes passes and snack is finished. The continuity of the morning is noticeable.

Two other children have joined the boys who are drawing and writing. In the home center two boys are constructing a dog house from blocks. The girls are still working with cuisenaire rods. A list of color names is being compiled by David and Mark in response to the teacher's suggestion, as they sort out a variety of buttons. Farm animals have been added to the block constructions. There is a busy hum of work, there is a tremendous feeling of respect and joy of learning. Children take their time to read, write, model, paint, build, etc., integrating subject areas as they learn with a purpose.

The teacher knows each child, she listens to children read, works with those as she sees appropriate, she answers requests for help and for her opinion, she is concerned that each child shall be extended according to his innate ability. She has provided resource areas in the room and

uses the extended environment of the school and the surrounding community. She encourages the children to be responsible, to clear away their materials when finished, to take pride in their work, and she gains satisfaction from their joy in learning as she is aware of her children wanting to discover and find out and work hard. The day will proceed, sometimes the pace slowing, which is natural with children. Children are given time to learn by watching others, to rest as they need to, or to be involved for long periods of time and to see a job done well. The room reflects the excitement and happiness of young children learning and sharing.

There is a need for concentrated movement for most children and an opportunity is given for the children to enjoy ropes, balls, bean bags and the climbing apparatus. The teacher observes her children - she notices those who do not participate fully on this occasion, and is aware of the children acquiring and practicing skills. The group returns to the classroom, chattering and discussing their games and activities. Generally, the children return to the work they left - writing, painting, reading, some move to different areas; the day continues.

The observer is aware of the continuity which allows the flow of learning to encompass the children and it is not until thirty minutes or so before the end of the school day that the direction changes. The teacher quietly reminds her children that a general cleaning up for the day should be underway. "Take time to finish your painting" - "leave your construction for tomorrow if you wish" -- children announcing that they will work on this or that tomorrow. The animals and plants are checked. There is a

gradual calmness as the group gathers in the book area to hear a story told by the teacher. There is a happy yet quiet exit as children leave to ride their bus home or to walk home. Some linger to discuss a point of interest - books are borrowed to read or to have read to them at home.

For the teacher, the day continues as she checks materials, makes a half dozen more books, mounts some pictures, paintings and drawings, some patterns made with printing techniques and labels some junk models made during the day. She shows respect for the work of her children. She prepares a collection of sinking and floating materials near one of the sinks. She makes a chart naming the articles which were used for measuring during the day. She finds a book about garden spiders, because she plans to bring in one of the species tomorrow. She plans to talk to the class about the clay as a modeling material and use Desmond's clay model of a horse to illustrate the session. Handling clay is an art in itself and models break easily if pieces of clay are pushed onto the model.

One day continues into the next.....

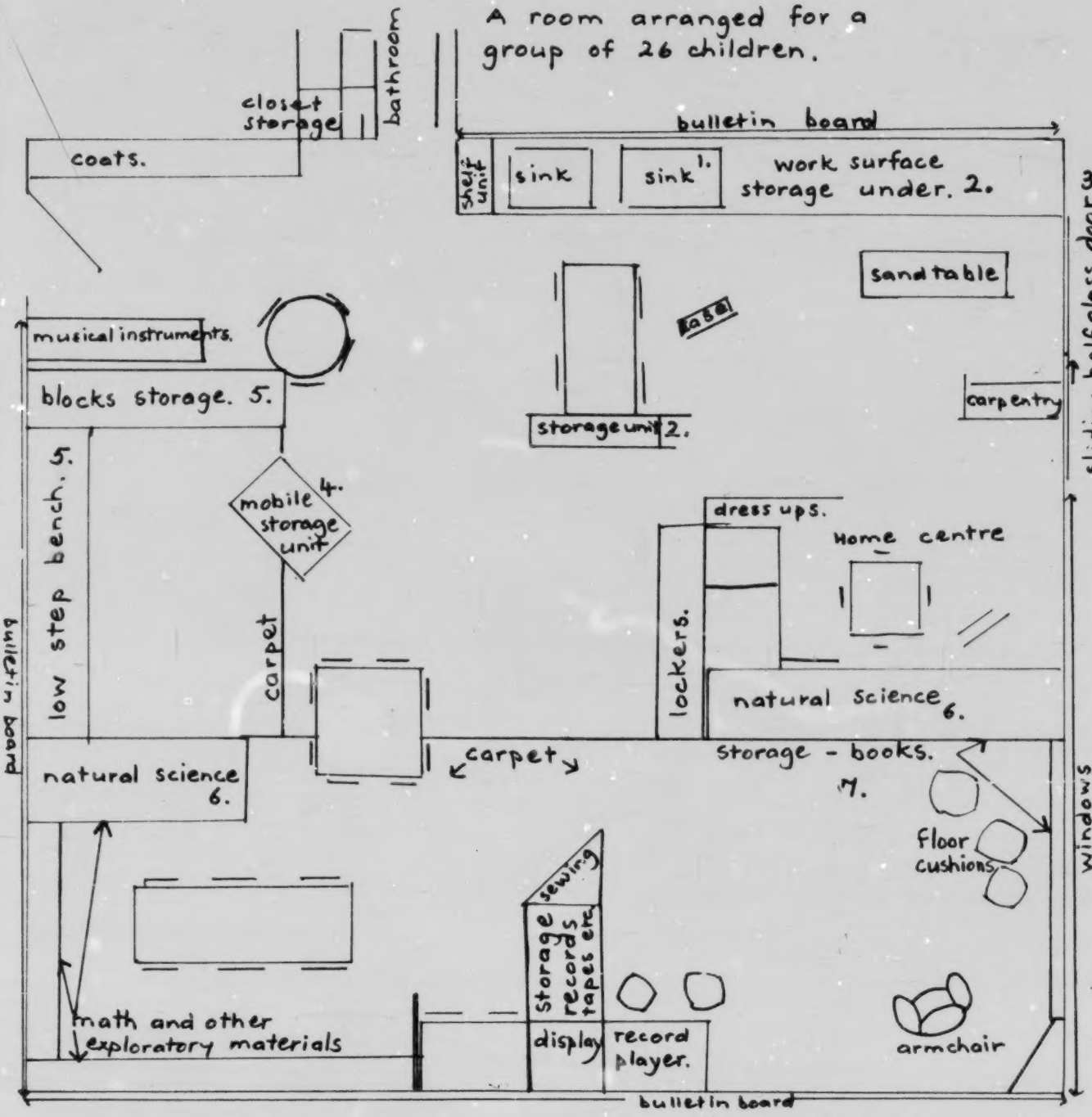
The Classroom:

The physical arrangement of the learning center (classroom) is based on the identified interests and needs of the children. The classroom is divided into various interest areas whose activities and facilities are not isolated from each other, i.e., buttons from the math area might be needed in the sewing area, or vice versa. The classroom is the center

of the learning environment; the classroom may open to include the playground, or a small garden plot just outside the room, or the school kitchen, or the library, or the principal's office and may also extend to include the community and its particular environment. The interest areas continuously evolve as the year progresses. The children move among the areas as their interests dictate, with teacher intervention when extension of an activity is possible. There are two or three quiet spots in the room where children can just relax and be alone and work areas with no material except what the children wish to bring, some tables with chairs or tables without chairs or just carpeted spots in the room. (See the Figure I for floor arrangement designed by Ms. Walsh. It is included to give the reader some idea as to possible room plans. It is presented as an example only, not as a model.)

Some interest areas that are usually included in a classroom are a math and science area, an art area, a home center, a reading and writing area, a woodworking area, a music area, a natural science center and a construction or block building area.

FIGURE 1 *



*See notes that follow.

Not to scale.

Some notes on the room arrangement:

Although the teacher has designed a room arrangement which she feels suits her group of children at this time, she, with the children, may decide to change the arrangement as the need arises. The areas in the room are resource areas for materials and activities. Although math materials, for example, are stored together, this does not limit their use to this area. There are obvious exceptions, such as paint being kept clear of the rug. One important criteria is that everyone shares the responsibility of returning materials to the right area after use. Providing adequate storage enables good housekeeping to take place. Children must be trusted for they respond positively to responsibility.

1. The double sink unit allows for greater flexibility -- water play continuing while paint brushes are being washed.

2. Storage for art materials, paper, paint, clay, brushes, etc., easily accessible to the children.

3. Sliding doors to covered patio immediately extends the learning environment; some activities will move naturally outside, carpentry, sand, etc. A garden might be developed by the children.

4. This low mobile unit stores constructional activities which may be combined with block building or may be moved from the area according to the needs of the children.

5. The storage unit in this area will be used for blocks and other improvised materials which the children will readily incorporate into their constructions -- steering wheel, heavy card bricks, thread cones, etc. The low "step bench" varies the level for construction.

6. Children identify easily with living things; they are responsible for the welfare of the animals and plants under the guidance of an adult. The aquarium, terrarium, plants and animals require differing amounts of heat and light. Various areas in the room can be developed and be attractive resources for natural science.

7. A good selection of many kinds of books, easily available to the children,provides resource for reference, reading or looking at pictures. This is a positive provision to encourage enjoyment of books and relates to both reading and writing. The coziness of the area is attractive and is a quiet place for group gatherings, stories, discussions, etc.

Chapter 4

STAFF

Role of State Education Agency:

During the pilot kindergarten program, the state education agency has exercised leadership, administrative, and regulatory functions. The legislative mandate to conduct the program was assigned to the State Board of Education and administered through the controller's office and the Department of Public Instruction's Division of Early Childhood Education.

The State Board of Education established guidelines for the administration of the program, including criteria for selection of the pilot centers. The controller's office developed procedures for the allocation of program funds, for both the state appropriations and federal funds secured through the Education Professions Development Act for staff development activities.

The Division of Early Childhood Education has provided program leadership on behalf of the state education agency with assistance from other divisions. This has included recommendations of possible pilot centers to the State Board of Education, preparation and distribution of instructional materials, participation in the design and conduct of the staff development program, providing technical assistance to local schools, and interpretation of the program to the public and General Assembly. The Department of Public Instruction, jointly with LINC, established an advisory committee on early childhood education staff development with various departmental personnel serving as members.

Examples: Career Education, AMA, Special Education

2. To work with regional coordinators and the Director of the K/ECE Division to plan and administer fiscal and program components of statewide summer institutes, workshops, and conferences.

3. To contribute to the policies governing the operation of the state K/ECE program.

   Examples: Drawing up guidelines for submission to the State Board of Education. Making recommendations concerning evaluation of the K/ECE program.

4. To develop and implement programs for young children by planning, organizing, coordinating and/or directing services which include: An orientation of school systems to the state K/ECE program; advising school systems on budgetary and programmatic concerns relative to their administration of the K/ECE program; assisting school systems in planning and implementing institutes and follow-up; providing technical assistance to individual teachers.

5. To plan and administer fiscal and program components of regional summer institutes, workshops and conferences.

6. To promote open channels of communication among individuals involved and/or concerned with developing programs of K/ECE through: coordinating inter-school visitation and follow-up, sponsoring conferences for LEA leadership personnel, and offering technical assistance to local school personnel for working with parents.

7. To disseminate information to the public and educators through: the news media; newsletters; and meetings with local PTA and civic groups.

8. To bring together other support agencies at the state and regional level to prevent duplication of effort and to promote the sharing of ideas that are beneficial to children.

9. To establish relationships with institutions of higher learning in order to promote compatibility between early childhood personnel training programs and the K/ECE program.

Role of the Learning Institute of North Carolina:

Throughout the pilot phase of the state's kindergarten program, LINC has had two major assignments -- designing and coordinating staff development activities and conducting program research and evaluation. In anticipation of the initial thrust toward state support for kindergartens, LINC organized a leadership development institute at Tufts University in the summer of 1969, assisted in the design of the on going staff development program and has continued involvement in the program through the LINC Early Childhood Education team. The team has included the State Coordinator of Early Childhood Education, a British consultant, and the program evaluator.

State Coordinator of Early Childhood Education Staff Development:

The coordinator of early childhood education staff development is responsible for the overall administration and coordination of summer training institutes and follow-up activities in the eight educational districts of the state. Also, the state coordinator is charged with providing on-site technical assistance to the early childhood regional coordinators by organizing follow-up regional study conferences, assisting in the summer institutes, and making observational visits to representative early childhood schools. Regularly scheduled planning and staff development meetings of the regional coordinators are arranged and conducted by the state coordinator.

Fifty percent (50%) of the funding for this position is allocated from ESEA, Title III, Section 306 sources, and the remaining 50% is received through LINC from other funding sources. This system of shared funding allows the coordinator of early childhood education staff development to serve on a statewide basis to eliminate possible fragmentation of staff development

efforts. (Staff development activities in the four western North Carolina educational districts are funded through ESEA, Title III, Section 306, while the activities in the four eastern districts have been supported through EPDA funds. However, the EPDA funds expired on June 30, 1973, and the four eastern regional coordinator positions were incorporated into the Early Childhood Education Division of the State Department of Public Instruction.)

Role of Regional Early Childhood Education Coordinators:*

The regional coordinators are deeply involved in the complex business of incorporating five-year-olds into the primary programs of the North Carolina public schools. Even though coordination of staff development from superintendents to teacher assistants is a fundamental part of their job description, it does not represent the entire scope of their responsibilities as the program expands from a pilot study effort to a statewide early childhood education program. The following describes the duties of the early childhood regional coordinators, as stated by Mr. James Jenkins, the Director of Kindergarten/Early Childhood Education at the State Department of Public Instruction.

1. To plan with regional coordinators and other state department personnel policies and programs which affect state and district K/ECE activites. Specific responsibilities include advising and giving technical assistance on budgetary matters on a statewide basis; planning and scheduling statewide summer institutes, workshops, and conferences; working with representatives from other divisions and state agencies to promote compatibility in programs which affect young children.

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*Much of the following description has evolved through the efforts to evaluate and document the Gaston County ESEA, Title III project which supports the four western regional coordinators.

10. To establish relationships with institutions of higher education for the purpose of shared use of facilities and human resources and to cooperate in research and development projects.

    Examples: Shared use of facilities, resources and cooperative projects -- location of institutes and other meetings; institutes of higher education using staff development centers and schools with the state EC program for workshop locations and community meetings; institutes of higher education using state program teachers to conduct workshops; staff development coordinators give lectures, seminars and workshops in early childhood training courses held in institutions of higher education; staff development coordinator assists in establishment of teacher centers located at institutions of higher education; staff development coordinator assists local school systems in establishing relationships with EC personnel at institutions of higher education for local staff development activities; staff development coordinator assists institutions of higher education in planning and implementing changes in EC teacher training curriculum; higher education institutions use state EC programs for their intern programs; staff development coordinator works with higher education institution personnel in developing and implementing a model educational program for mainstreaming special education children; and higher education institutes use state EC programs for research in designing their teacher training programs.

Intra-district responsibilities include planning and directing regional summer training institutes for the K-3 teaching teams* from the early childhood centers, serving as staff members for the Principals' Conference,

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* Example: A team may consist of the kindergarten teachers and teacher assistants, first, second and third grade teacher representatives, the special education teacher and/or librarian, the principal, and, if possible, an elementary supervisor representing the LEA.

training new personnel in student assessment, and organizing on-site visits to the centers for follow-up training and assistance. Many of the coordinators produced a report evaluating and documenting their summer institutes and distributed monthly newsletters within their districts and to appropriate others.

The majority of the responsibilities of the individual coordinators is involved with activities within his/her district; but, the coordinators undertake notable extensions of these activities. For example: (a) the eight regional coordinators, with the assistance of early childhood personnel from the State Department of Public Instruction and LINC, conducted a statewide Principals' Conference in July, 1972 for the principals of the 79 schools involved in the state early childhood program; (b) every month, the coordinators attend a meeting conducted by the state coordinator of early childhood staff development for the purpose of consolidating the ongoing activities in the eight regional districts and State Department of Public Instruction and LINC. During this past year, these monthly meetings assumed larger perspectives than before: besides providing the opportunity to share, discuss and evaluate, these meetings have been used to plan for the statewide expansion of the early childhood education program.

Some pertinent activities undertaken and accomplished by the coordinators were: a) writing guidelines for the state early childhood education program; b) preparing budget proposals for individual schools to implement future staff development and evaluation activities; c) developing a proposal concerning the revision of the early childhood education evaluation and research design; d) devising the form for submission to the

State Superintendent of Public Instruction of yearly plans by the LEA upon acceptance of a kindergarten center; and e) effecting the mechanism for the staff development of approximately 2500 teachers and 500 principals new to the program as of June 1973.

In addition to these substantial supplemental activities, each coordinator participated in inter-district workshops, principals' and/or supervisors' meetings and discussion groups.

The Role of the Teaching Team: Teacher and Teacher Assistant:

One hundred and forty-eight (148) teachers, each with a teacher assistant, were involved with the North Carolina pilot kindergarten program in 1972-73 working with approximately 3400 five-year-old children. The basic teaching team unit was one teacher and one assistant; the units were utilized in various ways: teacher and teacher assistant teams maintained self-contained classrooms with 23 children; teams were combined into double units with 46 children; teams were composed of a kindergarten team unit and a first, and possibly a second, grade teacher into a multiaged classroom; and, various other combinations were utilized depending on the needs of the children and the teachers and the degree of development of the teaching team, among other things. All of the participating staff members received training to prepare them for working with young children. Also, each team had ready access to follow-up assistance from or through the regional coordinators.

The teacher leads the teacher/teacher assistant team. The assistant works closely with the teacher in all aspects of preparing, maintaining and implementing the learning environment for young children. They are not the dispensers of knowledge; they are the facilitators of learning through the management of the environment. The teacher's role will vary from child to child. A primary responsibility of the teacher is to assure that each child will be fully engaged in activity for as much of the day as possible, to encourage the active exploration of the environment by the child and to extend learning as much as possible with the individual child. Teacher activities that are supportive of this responsibility appear to correspond to the following as outlined by Roland Barth. * The teacher

1. Respects children as individuals
2. Manages the environment
3. Provides materials
4. Consolidates children's experiences through language
5. Provides direct instruction
6. Encourages children's activity
7. Encourages children's independence.

The teacher values the characteristics of each child and seeks to enhance growth utilizing the child's strengths and interests. Children are encouraged to become actively involved in meaningful activities as determined by interests. Within a given classroom children may pursue an activity either singly, in pairs or small groups with or without the input of an adult. Only occasionally will the teacher predetermine specific activities and/or grouping patterns.

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* Barth, Roland. Open Education and the American School. New York: Agathon Press, Inc., 1972. p. 69.

The teacher determines how the classroom looks and what materials are available to the children. Rich and varied environments are necessary to provide each child with adequate resources for exploration and learning. "The locus of learning is where something of particular interest to the child happens to be."*

Materials are made available which will "...engage the child's innate curiosity and involve him in the learning process."** The material may be found inside or outside of the parameters of the classroom. They are often provided by the children themselves and are inexpensive, familiar and easily accessible. Materials are usually multi-purposed and open to the need or the interpretation of the child.

"...the teacher can exercise a delicate, yet powerful function: he can encourage the child to verbalize his discoveries, provide the child with a word for a concept of an idea, and help the child to associate a useful symbol with a concrete experience."*** The child's experience is valued without imposition of adult interpretation and language. Nonverbal as well as verbal behavior is valued.

There are times when it is necessary for the teacher to be directive: 1) to enable the child to acquire important skills or information necessary for continuing his active pursuit of his interests and 2) to eliminate danger to the child or others. The teacher trusts the children and has confidence in

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* op. cit., p. 75
** op. cit., p. 76
*** op. cit., p. 85

their ability to make choices concerning their activities. The teacher manages the environment and provides materials which will encourage activity. Time is flexible.

It is more important that children become independent and self-sufficient rather than dependent on adult direction; therefore, the teacher provides direction only when the child needs help in continuing an activity that cannot be obtained by the child or from another child. The teacher may best help by allowing the child to analyze his own experiences. "By encouraging the child to pose his own problems, solve them and verify them, by providing situations in which the child can work independently and experience success, the teacher can help the child to become autonomous."*

The Role of the Principal:

One of the participating principals summarized his role in the early childhood education program when he said that, "The principal is administratively and programatically responsible for his (her) school. He (or she) must be an instructional leader and set the tone for the learning activities that occur within the school setting." The principal has been identified as the key member of the early childhood team and has been included with his staff in in-service activities. In addition, many programs have been provided for principals to help them to identify their roles and implement their ideas concerning early childhood education. Support systems have been established through the regional coordinators to assist principals in their schools whenever needs arise. Consultants from the State Department and LINC have also

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* op. cit., p. 96

been made available for helping the principal implement the program in his school.

The kindergarten program is considered to be an integral part of the primary program; therefore, in most cases, the involvement in the kindergarten program promoted a change in the primary programs of the participating schools. Inservice was provided for the primary teams including resource personnel and team leader, the principal.

The principal facilitates the role of the teachers by providing them the opportunity for making decisions concerning what is best for children, thereby developing their ideas and beliefs about children, learning, and knowledge.

Resource Personnel:*

The early childhood education program considers good education to encompass the special needs of every child without isolating certain ones from the group for exclusive instruction. The teacher provides appropriate learning activities for each child, and is supported by the resource staff -- special education, music, and art teachers, librarian, etc. In some instances, there are resources beyond the regular teams; i.e., parents, reading teachers, social workers and community agencies; but all assistance is integrated into the regular classroom activities of the children.

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*The following discussion is taken from a study supported by ESEA, Title III, Section 306 funds. Additional information is available from the Final Evaluation Report for the Establishment of Regional Centers for Early Childhood Staff Development, August 1973, published by the Learning Institute.

Experience indicated, however, that classroom teachers required different kinds of assistance to successfully implement this approach and that supplementary personnel needed to function differently. For example, with the "mainstreaming" of handicapped children, special education teachers had to move out of self-contained situations and become resource persons in supporting the developmentally handicapped child and his/her teacher within the regular classroom. An innovative staff development program was developed to facilitate this change within the early childhood education program. A special education coordinator, funded through the ESEA, Title III, Section 306, Gaston County project, was assigned to work about half-time in one school district in a concentrated effort with the special education resource teachers in the context of the regular classroom setting. (This center now serves as a model demonstration and training center for teachers in the western part of the state.) The remainder of the coordinator's time was spent in conducting demonstration workshops, seminars and related activities over a large portion of the state.

The following discussion of the advent and amplification of the resource program (data from the study are currently undergoing analyses by the LINC Research and Evaluation Team) at Polkville Elementary School by Betty Siviter, Special Education Coordinator, describes both the concept of the resource approach and the role of the resource teacher.

> Polkville School contains grades K-6 and serves a small town and a rural community located 12 miles north of Shelby.
> In 1971-72, Polkville School operated a separate self-contained classroom for educable mentally retarded (EMR) children. Through the cooperation of the school district authorities and

Polkville School, the system agreed to return EMR students to their regular classrooms and to design and operate a resource room for special education needs.

The early childhood education coordinator for exceptional children met with the Cleveland County administrative staff, the principal, the resource teacher and the Polkville faculty members numerous times to plan and implement their program. The plan also called for the re-education of teachers to better meet the needs of all children. She conducted workshops, met with the resource teachers, Polkville teachers, parents and community resource people to help implement the resource approach.

The resource teacher describes her role as follows:

1. To prepare and distribute referral forms to classroom teachers.
2. To receive proper referral forms from 16 classroom teachers in order to identify the EMR, learning disability (LD) and emotionally disturbed (ED) children according to their specific needs (first six weeks).
3. To screen, observe and give appropriate formal and informal tests to diagnose the child's specific problem.
4. To prescribe proper methods, techniques and strengths of children in these areas (EMR, LD and ED).
5. To change attitudes of teachers and other classmates toward exceptional children.
6. To supply materials and teaching methods.
7. To make materials for resource room and classrooms.
8. To hold continuous conferences with teacher and parents.
9. To arrange a flexible schedule for working in resource room, classrooms and planning.
10. To evaluate the special education program continuously (weekly).
11. To evaluate children (pre and post).
12. To keep folders on each exceptional child -- diagnoses, activities, methods, personal information and work.
13. To use all available community agents.
14. To provide staff development for fellow faculty members (workshops, handouts, books, etc.).
15. To arrange for experiences to happen for the exceptional child and friends (field trips, projects, interests).

The resource teacher also worked with teachers, especially K-3 teachers, to help them realize that if their classrooms are child-centered and there are resources for exceptional children provided in the classroom, and if the teacher models a positive attitude toward these children, exceptional children need not be segregated into classrooms.

Within the framework of the resource program, categorical labels began to be eliminated and the stigma of special education placement was greatly reduced. Some teachers preferred the resource teacher

to stay in the regular classroom and help, while others used her only in a consultant capacity; and even teachers in grades 4-6 would not let the exceptional children leave the regular classroom when involved in learning experiences exciting to them. These were the kinds of responses that the resource teacher worked toward.

The Polkville resource program first served 15 children who were EMR students. The resource teacher designed her room with interest centers. She worked with students in the resource room (EMR and regular students) and in their classrooms on a scheduled basis. Later during the year, she chose a more flexible schedule so as to serve more students (30 EMR and LD). Regular students chose to work on special projects in the resource room, too.

The resource teacher served in a consultant role with Polkville teachers -- helping in their rooms (teaming), conducting conferences and workshops, providing materials from the resource center to regular classrooms, making materials with teachers, holding parent conferences, meeting with other agencies, and meeting the needs of the requirements of the director.

The resource model, with its flexible schedule system, could easily incorporate the training program for regular classroom teachers and teachers of exceptional children into the school system.

Similar changes are occurring in schools across the state. Special education and reading, art, and music teachers and librarians, especially, are discovering when children learn through the integrated day approach and when teachers manage the learning environment to meet the individual needs of children that they, the specialist, must redefine their roles. No longer is it appropriate for an entire class to go to the library at a specific time to learn a teacher-identified skill. Librarians must now help an individual child with a particular problem when the child needs the assistance; and usually, very few children have the same need at the same time.

The state's early childhood education staff development efforts are expanding to include assistance for both these special teachers and the regular classroom teachers in the efficient use of supplemental personnel. A major emphasis of the program is school team cooperation for the enhancement of the growth of children.

PART II

EVALUATION

Chapter 5

PURPOSE

Initially, there were two purposes addressed by the evaluation design for the North Carolina kindergarten pilot program: (1) to provide information for the state's decision-makers about the effectiveness of the program for five-year-old children; and (2) to provide information for classroom teachers for making decisions concerning the skills and needs of individual children.

The original design was first administered in December 1969. Specific data, with minor variations, was collected for every child in the program at the beginning of each of the four pilot years. At the end of each year, data was collected from children in a random sampling of the classrooms. The design was expanded this year to include data from the teachers and the classroom environments in an effort to determine if relationships exist between the achievement gains of children and the learning environment as established by the teacher.

Chapter 6

HISTORY
of
Evaluation of the North Carolina Pilot Kindergarten Program

The genesis of early childhood education in this country was under the leadership of Susan Blow, the principal proponent within the American school system of the child-centered concepts developed in Europe principally by Frederick Froebel. The first public kindergarten opened in this country in St. Louis, Missouri in 1873* In 1874 the National Education Association (NEA) recommended that kindergarten programs be incorporated as a part of the public school system. **

Less than 100 years later, in 1968, the Governor's Study Commission on the North Carolina public school system recommended that the General Assembly appropriate $18 million for the nucleus of a public kindergarten program. This level of funding, the commission said, would enable the state to provide kindergartens for 25 percent of the state's 100,000 five-year-old children. Also, the commission recommended that the kindergartens be expanded during the next two bienniums until all five-year-olds could be accommodated by 1973-75.

The next year, the North Carolina General Assembly appropriated $1 million for the 1969-71 biennium for the establishment of the first state-supported kindergarten programs in North Carolina.

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* There was a small experimental program in Boston prior to 1873.

** Evans, Ellis D., Contemporary Influences in Early Childhood Education. (Holt, Rinehart and Winston: New York) 1971, pp. 4-6.

A major component of the pilot kindergarten effort begun by the 1969 appropriation was program evaluation -- necessary for program decision-makers at both state and local levels and for the teachers planning learning environments for their children. The State Board of Education assigned the Learning Institute of North Carolina the responsibility of designing, implementing, and conducting the evaluation of the pilot program. (See Chapter 8 for a discussion of the instrumentation.)

The evaluation efforts began with the opening of the first eight centers in December 1969 using a pre- and post-test design with a control group of children who applied for admittance into a state kindergarten classroom but were not chosen in the random selection process. The attrition of the control group of children made the control group too small for valid comparisons and was eliminated from the study after the second year (1970-71). The evaluation design maintained, with minor modifications, for the duration of the pilot program was constructed by Dr. Hugh I. Peck and Dr. Betty Landsburger of the LINC Research and Evaluation Team. The North Carolina State-Supported Early Childhood Demonstration Centers: First Annual Evaluation,* October 1970, and the North Carolina State-Supported Early Childhood Demonstration Centers: Second Annual Evaluation, October 1971, were written by Dr. Betty Landsburger under the direction of Dr. Peck. The North Carolina State Supported Early Childhood Demonstration Centers: Third Annual Evaluation, October 1972, was

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* All evaluation reports are available upon request from the Learning Institute of North Carolina, 1006 Lamond Avenue, Durham, N.C. 27701.

written by Suzanne Triplett under the direction of Dr. Peck.

This, the North Carolina State Supported Early Childhood Demonstration Centers: Fourth Annual Evaluation, presents the achievement data for the four years (1969-1973) of the pilot program to aid the reader in interpreting some of the effects of the kindergarten program.

Chapter 7

PROCEDURES

The 1971 General Assembly appropriated funds for 74 centers to be operative during 1972-73 in the pilot Kindergarten/Early Childhood Education program. The disposition of the centers was nearly equal dispersion (See Table 1 for distributions) among the state's eight educational districts (See Figure 2 for a map of the educational districts). A center was defined by the guidelines adopted by the State Board of Education as being comprised of 46 children, two teachers and two teacher-assistants. Generally, and in accordance with the guidelines, a center was established within a primary school in a local school district; however, exceptions were made by the State Department of Public Instruction for areas where there was insufficient five-year-old population to support a full center within one school without extensive transportation. In these few instances, the centers were divided into two classrooms, each becoming a part of the primary program of a school; therefore, there are 74 centers located in 79 schools. (It should be noted that Anson County has been alotted three classrooms while Graham County was alotted only one. This is the only instance where a center's disposition was not within county boundaries. The East Harper Elementary School program, located within the Lenoir City School district, is shared by the Lenoir City Schools and the Caldwell County School system.)

The children were selected to participate in a kindergarten classroom in accordance with guidelines adopted by the State Board of Education.

Table I

STATISTICS FOR

THE NORTH CAROLINA KINDERGARTEN-EARLY CHILDHOOD PROGRAM

1972-1973 School Year

EDUCATIONAL DISTRICT	NUMBERS OF					
	Individual Schools having State K Programs	School Administrative Units having State K Programs	Counties having one or more State K Programs	"County Administrative school Units"* having one or more State K Programs	"City Administrative Units" having State K Programs	Counties in each state educational district
I	10	9	9	9	0	15
II	10	10	10	9	1	13
III	9	9	9	8	1	12
IV	10	9	9	7	2	11
V	10	10	10	7	3	11
VI	9	8	8	7	1	8
VII	9	9	9	8	2**	14
VIII	12	10	10	8	2	16
TOTALS	79	74	74	63	12	100

*A County-City Unit (example: Winston-Salem/Forsyth Schools) is classified as a "County Administrative Unit" for the purposes of these statistics.

**The Lenoir City School Unit and the Caldwell County School Unit went together in Caldwell County to have a program. Twenty-three (23) children come from the Lenoir City School Unit and 23 from the Caldwell County School Unit. The school is actually administered by the Lenoir City School Unit.

FIGURE 2

EIGHT EDUCATIONAL DISTRICTS
NORTH CAROLINA

These selections were made by random selection by local school districts or by the Learning Institute which provides this service upon request from the local educational agency.

The guidelines for making the pupil selections, by centers, are as follows:*

1. Application formats are designed by the school systems or by LINC. Parents complete the applications and submit them to their respective school systems (or individual schools). The forms are forwarded to LINC by the local educational agency with the request to randomly select 46 children for enrollment in the kindergarten program at each center. (There are occasional exceptions made in the numbers, e.g., 52 instead of 46, in response to the needs of the local educational agency.)

2. Preliminary division of the applications in the selection process are made on the basis of sex, race, age and socio-economic status of the family, to the extent that these kinds of information are available on the application form.

   a. The strictest requirement for random selection is the even distribution of classroom enrollment between the male and female children, 23 males and 23 females.

   b. Race distribution is based on the percentages of racial representation in the community served by the particular school in which the center is located. In most cases, the racial composition of a community is determined by information obtained from local census data as made available by the local school board.

   c. The children are further divided within the sex and race categories according to age. A child's age is determined within a prescribed annual period beginning on October 16th of the enrollment year and ending on October 15th of the following year (e.g., October 16, 1972 through October 15,

* The selection procedures are in compliance with the Civil Rights Act.

1973). Children are assigned as over $5\frac{1}{2}$ years old if their birthdays fall within the school year period between October 16 and April 15; children are assigned as under $5\frac{1}{2}$ years old if their birthdates fall within the period between April 16 and October 15 of the annual period.

d. If the application format provides information on the economic status of the child's family, this information is used as the final categorization in the selection process. Generally, the levels of income are: Low (below $3,900), Average ($4,000-9,000), and High (above $9,000). The levels of income pertain to selection according to the percentage of applicants at each level.

As was indicated previously, the allocation for a center provided for 46 children, or 23 children for a classroom. One center, with concurrence from the State Department of Public Instruction, enrolled 52 children. Therefore, the maximum total population was 3410. (When children discontinue enrollment in a program, the principal may enroll a child whose name is on the alternate list of names prepared at the time of the original selection. The replacing child should have characteristics corresponding to those of the replaced child; i.e., if a black girl over $5\frac{1}{2}$ years of age leaves the program, the first alternate black girl over $5\frac{1}{2}$ years of age should be chosen as the replacing child. Therefore, the total population will remain fairly consistent in numbers and composition but will not reflect changes of individual children.)

Congruent with the goals of the kindergarten assessment/evaluation efforts -- a) to provide teachers with meaningful data relating to the needs and skills of individual children, and b) to provide decision-makers

at both the local and state levels with appropriate data for determination of program contributions and needs -- the assessment battery* was administered to each five-year-old child enrolled in the kindergarten program in September 1973.

During the 1972 Regional Early Childhood Education Summer Institutes, the Learning Institute provided for all new kindergarten personnel training workshops in administration, scoring, and interpretation of the kindergarten assessment battery. (Teachers not new to the program in 1972 received training previously.) On August 15, 1972, LINC distributed the assessment instruments and their accompanying teacher guides and scoring keys to the participating school principals. Information also was provided concerning a LINC answering service (collect call) for test and/or program related questions or problems. Teachers were asked to administer the test battery according to the following schedule:

> Home Information Scale -- administer either at registration, during the home visit (usually during the first two weeks of school and prior to the entrance of the five-year-old child) or during the parent's preschool visit to the classroom with the child (usually prior to the entrance of the children).
>
> Preschool Inventory -- administer, individually, during the parent's preschool visit to the classroom with the child.
>
> Draw-A-Man -- administer, individually, either during the parent's preschool visit with the child or during the first week of kindergarten (after the five-year-olds enter the program).

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* A description of each instrument may be found in Chapter 8.

> TOBE: Language and Mathematics -- administer, either individually or in small groups not to exceed six, during the first two weeks of school. The TOBE should be administered only in the morning hours (before lunch) and no child should be given more than one of the tests during a given morning.
>
> Classroom Behavior Inventory -- complete during the first two or three weeks of school.

All tests results were to be submitted to LINC on individual data summary sheets by October 15, 1972.

Test results for 3079 children were received by LINC by October 31, 1972. This data was processed and returned to the 70 centers submitting data. Summaries from the preliminary analyses were provided for the Early Childhood Education Division of the State Department of Public Instruction, LINC, and the Regional Early Childhood Education Coordinators. * The researcher was able, through the course of the year, to assemble data from 77 of the 79 schools representing 3275 five-year-old children which comprise the sample for this study. The sample is 96% of the total enrollment count; however, it should be noted that the enrollment count does not reflect the changes in individual enrollments.

Inasmuch as the regular classroom teachers administered and scored the test instruments, there is reason to suspect some bias in the test

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* The preliminary findings from both the pre- and post-test data were presented in the Final Evaluation Report of the ESEA, Title III project, "The Establishment of Regional Centers for Early Childhood Staff Development," August 1973. Further analyses have identified some processing errors in the original data; i.e., the data was transferred from key punched cards to a disc pack for analyzing and in the transferring process the TOBE data for 2 centers was misread causing 12 to be interpreted as 72, 13 as 83 and other such errors. All identified errors have been corrected for this report. The changes in the findings do not effect the conclusions of the Title III evaluation.

results; however, the procedure was unavoidable because of available resources and because of the desire not to disrupt the orientation of these five-year-old children to both their teachers and the kindergarten environment. The researcher acknowledges the possibility of some bias but perceives that it is minimal on the basis of consistent results over a period of four years. The teachers were trained in the administration and scoring procedures, provided administration instructions and instruments prior to the testing dates, and encouraged to call the researcher in regard to questions and/or problems arising during the testing process.

For the post-testing, the sampling procedure differed somewhat but the testing procedure was identical with the regular classroom teacher administering and scoring the battery. Two samples were selected: 1) random selection of children from 31 schools from the 79 comprising the state program, and 2) selection of children from all 20 schools new to the program in 1972-73. Sample 1 is composed of all of the five-year-old children post-tested and Sample 2 of all children from the new schools. The first sampling procedure (by centers) was utilized as the most appropriate method for comparing the overall gains of children in the program. (Random selection of individual children for testing was considered to be managerially unreasonable.) This sample, 1291 children, from 31 schools, was used to determine the overall gains of children involved in the program and will be referred to as Sample 1. Sample 2 was drawn to provide a data base for more in-depth studies of the kindergarten program. All of the teachers in Sample 2 were new to the program

this year (1972) and attended one of the 1972 summer training institutes. The total possible population was 42 teachers and 920 children representing 21 schools; however, two of the teachers who began in the fall were replaced during the year and have been dropped from the study. Complete data was received from 38 teachers and 753 children who comprise Sample 2.

As the state's kindergarten/early childhood education program has evolved over the past four years, some major research issues have arisen which cannot be answered by observing the children alone: 1) Do children in child-centered classrooms achieve more on standarized tests than children in traditional classrooms? 2) Do some groups of children appear to respond more positively to child-centered learning than other groups? 3) Do children in child-centered classrooms respond more positively on non-cognitive measures than children in traditional classrooms? and 4) Are currently available standardized tests appropriate for measuring the real achievement of children in North Carolina's early childhood education program?

One of the major goals of this year's research efforts has been to establish a data base for research of some of these issues. Some data utilized in this evaluation report were provided through resources available through the evaluation efforts of the Gaston County ESEA, Title III project, "The Establishment of Regional Centers for Early Childhood Staff Development." The project evaluation conducted by this researcher was designed to complete the efforts of the state evaluation and to respond to the vital

issues that are arising as the program progresses. Table II presents an inventory of the data available for both Sample 1 and Sample 2.

(NOTE: This report does not propose to answer all the questions being raised by this program or to present complete analyses of the available data. Indeed, the intent is only to establish a basis for new and on-going research and to begin analyses of the data currently available. LINC anticipates continued study of the data for the coming year. Results of subsequent studies will be submitted to the State Board of Education, State Department of Public Instruction, to appropriate journals, and others.)

The teacher-related testing procedures were not the same as the procedures relating to the testing of the children. The teacher test battery consisted of two observation scales, the Walberg/Thomas Observation Scale and the LINC Classroom Observation Scale, and two questionnaires, the Teacher Beliefs Survey and the Walberg/Thomas Teacher Questionnaire. Observers were identified to visit each classroom; only persons previously trained and experienced in the use of the Classroom Observation Scale were selected for the study. The observers participated in a review of the Walberg/Thomas Observation Scale prior to their visits to the schools.

The Walberg/Thomas Teacher Questionnaire was attached to the TBS answer sheet. The Teacher Beliefs Survey, the TBS answer sheet, the Walberg/Thomas Teacher Questionnaire, directions for completing the instruments, and a stamped addressed envelope were given to the teachers by the observers during the observation visits. Questions were answered by the observer, and a phone number was available for assistance from the researcher (collect call).

TABLE

INVENTORY OF AVAILABLE DATA FOR SAMPLE 1 AND SAMPLE 2

Sample 1

Pre	Post
STUDENTS	
Age	
Sex	
Race	
Home Information Scale	
Pre-school Inventory	
Draw-A-Man	Draw-A-Man
TOBE Language Math	TOBE Language Math
Classroom Behavior Inventory	Classroom Behavior Inventory
Subscales Extroversion Introversion Social Behavior Task Orientation	Subscales Extroversion Introversion Social Behavior Task Orientation

Sample 2

PRE	POST
STUDENTS	Certification Level Years Teaching Experience

Instrument	Subscales
Classroom Observation Scale	1. Use of Multi-Media Teaching 2. Use of Intra-Class Grouping 3. Differentiating Assignments 4. Promotion of Independence from Direct Supervision in Learning 5. Climate Scales
Walberg Observation Rating-Scale	1. Humaneness, Respect, Openness and Warmth 2. Diagnosis of Learning Events 3. Instruction, Guidance and Extension of Learning 4. Evaluation of Diagnostic Information 5. Seeking Opportunities for Professional Growth 6. Self-Perception of Teacher 7. Assumptions About Children and Learning
Teacher Beliefs Survey	1. Emphasis on Subject-Matter Content 2. Freedom and Autonomy in Learning 3. Specialization versus Integration of Disciplines 4. Teacher Empathy 5. Student Involvement in Planning 6. Student-Regulated versus Teacher-Regulated Classrooms
Walberg Teacher Questionnaire	1. Provisioning for Learning

STUDENTS	
Age	
Sex	
Race	
Home Information Scale	
Pre-school Inventory	
Draw-A-Man	Draw-A-Man
TOBE Language Math	TOBE Language Math
Classroom Behavior Inventory	Classroom Behavior Inventory
Subscales Extroversion Introversion Social Behavior Task Orientation	Subscales Extroversion Introversion Social Behavior Task Orientation
	IOX School Sentiment
	Subscales
	IOX Self-Appraisal
	Subscales

The school principal was notified in advance of the observations. All observations were completed between 9:00 a. m. and 11:00 a. m. Teachers were asked to return the surveys and answer sheet to the Learning Institute within two weeks. Forty-four (44) teachers were involved in the 20 new centers. Data was received from 38, or 86%, of the participants.

Chapter 8

INSTRUMENTATION

Students:

Generally the same battery of assessment/evaluation instruments has been used during the four years of the pilot kindergarten early childhood education program. Changes have occurred only with modifications of specific instruments. For example, the Classroom Behavior Inventory was modified by its author, Dr. Earl S. Schaefer, from a 60-item inventory to the 18-item inventory currently used in the assessment. The original battery included all five Test of Basic Experience (TOBE) subtests but was modified the second year of the program to include only the language and mathematics subtests.

The following descriptions delineate the development and modification of all the instruments used in the North Carolina kindergarten evaluation. Detailed descriptions are presented only for instruments new to the 1972-73 research efforts or for areas where specification is deemed helpful in interpretation of the data. Copies of all new instruments are included in Appendix B.

Home Information Scale:

One of the problems in early elementary education research is getting an accurate measure of the home environment of each child. Connie Kami and Norma Radin developed the Home Environment Scale for the Perry Preschool project at Eastern Michigan University. The instrument has

two purposes -- first, it helps the teacher to get to know the child, the parents and the home situation; second, it is useful in statistically equating groups of children with different socio-economic backgrounds.

However, the original Home Environment Scale required about 40 minutes to administer. Because teachers have many responsibilities at the beginning of school, it became advisable to shorten the scale to its current form called the Home Information Scale, which takes approximately 15 minutes to administer. (Statistical data concerning the shortening of the instrument may be found in the Appendix of the first annual evaluation report - 1970.) The short form of the Home Information Scale has been used in the North Carolina program for three years.

Sample items from the Home Information Scale are:

1. Does (name of student) live with both of his natural parents?

   _____
   Yes or No

   If no, please explain whom he lives with:

   _____
   adoptive parents, grandparents, mother only, mother and step-father, etc.

2. Please tell me which ones of these your family owns: (check if 'yes')

_____ TV set	_____ Record player	_____ Vacuum cleaner
_____ Telephone	_____ Dictionary	_____ Receive a daily
_____ Automobile	_____ Encyclopedia	newspaper
_____ Refrigerator		

The scale is administered by the teacher as a structured interview during the teacher's preschool visit to the home or the parent's preschool

visit to the school. (A few schools did use the scale as a source of information for selecting children for the program. In these instances, the scale was administered by someone designated by the principal, usually the school secretary, during the registration process.)

The Home Information Scale has a scoring procedure which pre-assigns values to each of the items measured. The teachers score the scale and submit a total score for each child to the evaluator. (See Figure 3 for a copy of the Individual Data Summary Sheet utilized by the teachers for submission of data to LINC.)

Preschool Inventory:

The Preschool Inventory is a brief assessment and screening procedure designed for individual use with children in the age range of three to six years. It was developed by Dr. Betty M. Caldwell to give a measure of achievement in areas regarded as necessary for success in school. The inventory is by no means culture-free; in fact, the instrument was developed to provide educators with a measurement that would permit them to highlight the degree of disadvantage which a child from a deprived background has at the time of entering school so that any observed deficits might be reduced or eliminated.

The Preschool Inventory is designed to provide the teacher with information in the following areas of preschool readiness:

1. Personal-Social Responsiveness: Knowledge about the child's own personal world and his ability to get along with and respond to communications of another person.

FIGURE 3

INDIVIDUAL DATA SUMMARY - FIVE-YEAR-OLDS

Name of Child _____ Center _____

a) _____ (1-2) Center Number

b) _____ (3) Classroom number

c) _____ (4) Sex (1-male, 2-female)

d) _____ (5) Race (1-Black, 2-Indian, 3-White, 4-Other)

e) _____ (6) 1-Experimental Fall, 2-Experimental Spring

f) _____ (7-10) I.D. Number

g) _____ (11-14) Birthdate (Month & Year)

h) _____ (15-16) Height (inches)

i) _____ (17-18) Weight

j) R/ W/ DK/ (19-24) Preschool Inventory

k) X

l) _____ (27-28) Draw-A-Man

m) X

n) _____ (31-32) Home Information Scale

o) Lang/ X / Math/ X (33-40) TOBE

(1) (2) (3) (4) (5) (6) (41-52) Teacher Behavior Rating Scale

DO NOT WRITE BELOW THIS LINE

1 — — — 5 — — — — 10 — — — — 15 — — — — 20 — — — — 25 — — — — 30

31 — — — 35 — — — — 40 — — — — 45 — — — — 50 — — — — 55 — — — — 60

61 — — — 65 — — — — 70 — — — — 75 — — — — 3/80

2. Associative Vocabulary: Ability to demonstrate awareness of the connotation of a word by carrying out some action or by associating to certain intrinsic qualities of the underlying verbal concept.

3. Concept Activation -- Numerical: Ability to label quantities, to make judgements of "more" or "less," to recognize seriated positions.

4. Concept Activation -- Sensory: To be aware of certain sensory attributes (shape, size, motion, color) and to be able to execute certain visual-motor configurations. *

The inventory is administered individually to the children involved in the program by the classroom teacher. Administration takes approximately 20-30 minutes and is usually completed during the preschool visit to the classroom to avoid distractions created by other children in the new surroundings. The teacher scores the instrument by counting the right and wrong and the "don't know" answers and submits the results to LINC on Individual Data Summary Sheets.

The following excerpts from the Directions for Administering and Scoring for the "Preschool Inventory, Revised Edition -- 1970," illustrate the types of items included in the inventory and the procedures for administering the same:

1. Three types of response may be recorded in the answer folder by circling or blackening the appropriate letter:

   R: Right answer

   W: Wrong answer

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*The above description was taken from the Handbook for the "Preschool Inventory, Revised Edition -- 1970." Educational Testing Service: Princeton, New Jersey.

DK: For an actual verbal, "I don't know"; where the child remains silent; or where the child responds or behaves in ways unrelated to the item. For example, Item 31, "My eyes are blue, your eyes are brown."

2. WHAT IS YOUR NAME?

Credit first name or first and last name. Credit name the child is called by his family (check with teacher or parent), even though this might not appear on the child's record. E.g., credit "Junior" if a check reveals that to be the common family designation for the child.

3. Say, "THAT'S VERY GOOD, NOW SIT DOWN IN YOUR CHAIR." Take out the three cars -- red, yellow, and blue, and the three boxes -- black, green, and white. Line the boxes up at least 4 inches apart from the left to right in front of the child in the following manner: white box with the open end at the top, black box with the open end down and green box with the open end up. Place all the cars together to the left of the white box. Make sure all cars and all boxes are visible after each presentation (i.e., do not leave a car in or under a box.)

Give each instruction only once. Make sure the child is looking and listening and say the words slowly. However, do not give undue vocal emphasis to the key words (e.g., red, on, little). To get credit the child must do all steps for each item correctly.

PUT THREE CARS IN THE BIG BOX.

PUT THE RED CAR ON THE BLACK BOX.

PUT THE YELLOW CAR ON THE LITTLE BOX.

PUT THE BLUE CAR UNDER THE GREEN BOX.

Credit is given for either inverting the box and placing it over the car, or for placing the car under the lower edge of the box.

4. WHICH IS BIGGER, A TREE OR A FLOWER?

Credit tree.

5. Say, "NOW I'D LIKE YOU TO MAKE SOME DRAWINGS LIKE THIS, (Point to the model) MAKE YOURS RIGHT HERE." (Point to the blank space beside the model). Only one trial is given for each figure. However, if the child spontaneously corrects his own drawing credit is given.

   MAKE ONE LIKE THIS. MAKE YOURS HERE (Line)

   Credit any line, straight or wavy. May be perpendicular to model. Must not return to point of origin.

Draw-A-Man:

The Draw-A-Man Test* has been used on a pre- and post-test basis in the kindergarten/early childhood program since the opening of the first center in 1969. The instrument was selected as the measure of mental maturity for participating five-year-old children. The Julia Vane** scoring method was used for determining the raw score on the test; the raw score is convertible to mental age by the Vane scale. Individual raw scores only were reported to teachers. Mental age scores have been used for research and/or evaluation purposes.

The test is administered to individual children by the teacher, both pre- and post-tests. The teachers score the tests and submit the results to the evaluator on the Individual Data Summary sheets.

Test of Basic Experiences: Language and Mathematics:

The Test of Basic Experiences (TOBE)*** has been used in the kindergarten study since its inception in December 1969. The TOBE is

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*Dale B. Harris, Goodenough-Harris Drawing Test Manual, Harcourt, Brace & World.

**Julia Vane, "The Vane Kindergarten Test," Journal of Clinical Psychology Monograph Series #2, 1968.

***Taken from the examiner's manual for TOBE.

based upon the fact that the experiences and associated learning opportunities of children are quite varied and that for a child to progress in school he must first master certain concepts and skills which may be acquired before formal schooling begins.

Four of the tests were given in the first year of the study -- mathematics, language, science, and social studies -- but for the last three years of the study only two of the tests, mathematics and language, have been included because of the large amount of time that was involved in administering the battery.

The TOBE is a structured objective measure designed to provide information concerning how well a child's preschool experiences have prepared him for his introduction into a school environment. The TOBE Mathematics test attempts to determine a child's mastery of fundamental mathematical concepts, the terms associated with them, and his ability to see relationships between objects and quantitative terms such as the biggest piece of cake, the oldest boy, the most marbles, and the number of eyes people have.

The TOBE Language test deals with such basic language concepts as vocabulary, sentence structure, verb tense, sound-symbol relationships, and letter recognition. It also contains items pertaining to listening skills and perception of symbols as the carriers of meaning. In addition to these items, the Language Test includes items based upon a novel approach to the measurement of language skills. This approach makes use of "nonsense" words. These synthetic words have no inherent meaning. The

child must derive their meaning from the context of the sentence in which they are used. Analysis of item difficulty indicates that this type of item is not excessively difficult for young children because they are accustomed to encountering unfamiliar words. Unrecognizable words do not sound as strange to children as they do to adults. In the Language test Item 28 in Level K is an example of this type of item. Telling a child "The boes burn. Mark the boes." and expecting him to distinguish matches from items that do not burn is really not too different from telling him that the soldering iron on his father's workbench will burn him. He understands that the soldering iron will burn him even though the words "soldering" and "iron" are no more familiar to him than "boes."

The TOBE subtests were administered to the participating five-year-old children and scored by either the teacher or the teacher assistant, both of whom received instruction in administration and scoring prior to the beginning of the school term. The use of proctors to help with the mechanics of the testing was encouraged. The testing was completed before lunch and no individual child was given both the language and mathematics tests on the same day. The children were tested either individually or in small groups not exceeding six based on the teacher's perception of the needs of the individual children.

The raw scores were submitted to the Learning Institute on the Individual Data Summary sheets.

Classroom Behavior Inventory:

Since opening of the first eight North Carolina state-supported kindergartens, there has been increasing interest in the effect that kindergarten has had on non-cognitive or affective growth. From the outset of the kindergarten evaluation measures of affective growth have, in some degree, been a part of the evaluation design. Specifically, the Classroom Behavior Inventory (CBI) by Schaefer and Aaronson was selected as the affective measure. A 60-item inventory was chosen with the assistance of Dr. Schaefer and was used for the first two years of the program. However, the CBI deals with the classroom teacher's observation of individual children and involves a significant amount of the teacher's time; therefore, the CBI was shortened by Dr. Schaefer to include three factors (making 18 items) and was used during the third year, and again during the fourth year, of the project. The three factors are:

1) Extroversion vs. Introversion
2) Positive Social Behavior vs. Negative Social Behavior
3) Positive Task-Oriented Behavior vs. Negative Task-Oriented Behavior.

The Classroom Behavior Inventory employes a four point answer scale, ranging from "very frequently" to "very infrequently." Each factor is derived by using six items which monitor behavior that relates logically to that specific subscale.

Very little emphasis has been placed on the importance of kindergarten experience to those characteristics of child behavior that may be identified as affective or non-cognitive. Although these measures are

more difficult to quantify and measurement techniques have not reached the level of sophistication that the cognitive measures have; they are and have been important to the kindergarten evaluation in North Carolina.

The administration of the CBI is a joint effort of the teacher and teacher assistant who observe individual children over a period of time. The pre-observations are, however, carried out during the first three or four weeks of school. The following items indicate attributes measured by the CBI

1) Laughs and smiles easily and spontaneously in class.
2) Awaits his turn willingly.
3) Watches carefully when teacher or a classmate is showing how to do something.

The CBI is scored by the teacher and/or teacher assistant, and the scores are submitted on the Individual Data Summary sheets.

Teachers:

It has become increasingly evident as the pilot program has progressed that the issue is the quality of kindergarten experience for young children. Early data indicated that, taken as a whole, children participating in the kindergarten program do make great gains during the year; however, in analyzing the data some children make significantly larger gains than others. In some instances greater gains can be attributed to one classroom. Or, within specific classrooms, higher changes are evidenced on particular measures, such as the TOBE or Classroom Behavior Inventory.

In order to initiate investigation into these phenomena, the program decision-makers -- coordinators, SDPI and LINC early childhood personnel, and teachers -- identified teacher beliefs and practices and classroom environment as major contributing factors to individual growth within the school setting. Instruments were then selected that measured appropriate beliefs and practices and classroom environments.

The following descriptions identify the three instruments selected for use in the program.

Teacher Beliefs Survey:

The Teacher Beliefs Survey was adapted for use by the Learning Institute of North Carolina in 1970 from an AERA Journal article, January 1969, "Dimensions of Teacher Beliefs about the Teaching Process" by Leslie J. Wahling and W. W. Charters, Jr. The instrument has been utilized in the early childhood education staff development efforts supported by EPDA and ESEA, Title III, Section 306 funds since its development. The survey investigates teacher beliefs about the teaching-learning process. Six factors* (subscales) were identified by Dr. David Kingsley in analyses of data from the teachers participating in the early childhood education staff development programs and will be used in this study for grouping teachers according to the pattern of their responses to the items of the six subscales. A description of each subscale of the Teacher Beliefs Survey as interpreted

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* See Dr. Kingsley's unpublished dissertation (Duke University) for the description of the derivation of the factor loadings.

by Dr. Kingsley in his unpublished doctoral dissertation (Duke University) follows:

Scale One: (Student Involvement in Planning)

This scale indicates the educator's attitude toward a combination of two ways which a teacher may use to facilitate student learning. First, the teacher may try to meet the social-emotional needs of his students. This is partially accomplished by showing a personal interest in the student. The second aspect of this scale is that of pupil participating. This participation usually takes the form of having a voice in the choice of problems for study, and giving students a part in lesson planning. Although the goal in this factor is a student-centered educative process, the items stress teacher initiation.

A high score on this scale indicates that a teacher is in agreement with pupil participation inchoosing the curriculum content and the approach to be used in the study. This teacher would feel that an important part of the educative process would be in meeting the non-intellectual needs of the student, an objective which would require the teacher to take a personal interest in each student.

Scale Two: (Emphasis on Subject-Matter Content)

The items in scale two are representative of the view that a student is in school to learn a certain predetermined course of study. Two questions state that "the backbone of the school curriculum is subject matter, (and that) learning is essentially a process of increasing one's store of information." A high score on this scale indicates the educator believes that the teacher's job is to teach facts and specific skills. It is a strictly academic point of view which would assert that the mastery of a field of knowledge is its own reward, and that a primary objective of teaching is seeing that this mastery is obtained.

Scale Three: (Student-Regulated vs. Teacher-Regulated Classrooms)

This factor emphasizes teacher control of the total classroom. It stresses supervision, discipline, standing firm, keeping pupils busy, a firm hand by the teacher, and hard work. A high score on this scale would be indicative of an attitude of firm control and careful organization on the part of the teacher, who is personally guiding and directing the total classroom process. It would indicate that the educator takes the attitude that discipline and control are an important part of teaching.

Scale Four: Teacher Empathy

Teacher Empathy deals with the attitude of the educator toward the closeness of the teacher's relationship with his students. An atmosphere filled with love and the teacher's ability to see the world as the student sees it are seen as being important aspects of teacher empathy. The teacher's personality is also a significant factor in his ability to relate to pupils. A high score on this scale indicates the educator takes the attitude that it is important to be able to empathize with the student, and understand his point of view. He would agree that an environment filled with love is helpful in discovering student interests and facilitating learning.

Scale Five: (Student Freedom and Autonomy in Learning)

Scale five brings together ideas about attitudes, order, pupil initiative and across-the-school routine. The importance of attitude learning is related to an environment in which pupils can make choices and set their own pace. This factor is definitely pupil-centered with the pupil doing the acting and the teacher mentioned only twice over the nine items. A teacher with a high score on this factor would agree that across-the-school routine would tend to restrict the learning which comes from student self-direction. Agreement with these items would also mean a belief that there is too much emphasis on keeping order in the classroom and the attitude that profitable learning can take place when students are allowed to exercise their own initiative.

Scale Six: (Specialization vs. Integration of Disciplines)

Subject-matter integration is not only the relating of the different fields of study, one to the other, but also relating the fields of study to what the student has experienced of the world outside the classroom. This factor related integration to hard work on the part of the teacher. A high score on this scale would indicate a teacher would agree that "the basic function of education is fulfilled only when pupils...understand the general significance of the material they have learned" (item 28.) The task of relating the subjects to the outside world is primarily a teacher responsibility according to the items in this scale.

The Teacher Belief Survey is administered to individual teachers on machine scorable answer sheets, and the answer sheet is returned to LINC for analysis. The scale utilizes a six point answer scale ranging from "strongly agree" to "strongly disagree". Factor scores for the six subscales are derived by multiplying the factor loading* for each of the 59 items. Items load positively or negatively on all subscales. The following are illustrative of the items included in the scale:

1. Children learn best in an atmosphere filled with love and emotional support.
13. There is too great an emphasis on keeping order in the classroom.
29. A firm hand by the teacher promotes emotional security for pupils.
41. The attitudes learned by a student are often the most important result of a lesson or unit.
44. The most important thing a teacher can do to set the stage for learning is to discover the interests of students.

Walberg-Thomas Open-Education Rating Scale and Questionnaire:

The Walberg-Thomas Open-Education Rating Scale and Questionnaire** was selected for inclusion in this year's study as appropriate for measuring specific program areas of concern. The following theme (subscale) descriptions*** outline areas measured by the instrument:

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*See Dr. Kingsley's unpublished dissertation (Duke University) for the description of the derivation of the factor loadings.

**Walberg, Herbert J. and Thomas, Susan Christie: Characteristics of Open Education: Toward an Operational Definition. TDR Associates, Inc; Newton, Mass., May 1971.

***Walberg, Herbert J. and Thomas, Susan Christie: "Open Education: An Operational Definition and Validation in Great Britain and the United States." AERA Journal. pp. 197-207.

1. Provisioning for Learning:
   Manipulative materials are supplied in great diversity and range with little replication, i.e., not class sets. Children move freely about the room without asking permission. Talking among children is encouraged. The teacher does group children by ability according to tests or norms. Children generally group and regroup themselves through their own choices.

2. Humaneness, Respect, Openess, and Warmth:
   Children use "books" written by their classmates as part of their reading and reference materials. The environment includes materials developed or supplied by the children. Teacher takes care of dealing with conflicts and disruptive behavior without involving the group. Children's activities, products, and ideas are reflected abundantly about the classroom.

3. Diagnosis of Learning Events:
   Teacher uses test results to group children for reading and/or math. Children expect the teacher to correct all their work. Teacher gives children tests to find out what they know. To obtain diagnostic information, the teacher closely observes the specific work or concern of a child and asks immediate, experienced-based questions.

4. Instruction, Guidance, Extension of Learning:
   Teacher bases her instruction on each individual child and his interaction with materials and equipment. The work children do is divided into subject matter areas. The teacher's lessons and assignments are given to the class as a whole. Teacher bases her instruction on curriculum guides or textbooks for the grade level she teaches. Before suggesting any extension or redirection of activity, teacher gives diagnostic attention to the particular child and his particular activity.

5. Evaluation of Diagnostic Information:
Teacher keeps notes and writes individual histories of each child's intellectual, emotional, physical development. Teacher has children for a period of just one year. Teacher uses tests to evaluate children and rate them in comparison to their peers. Teacher keeps a collection of each child's work for use in evaluating his development. Teacher views evaluation as information to guide her instruction and provisioning for the classroom.

6. Seeking Opportunities for Professional Growth:
Teacher uses the assistance of someone in a supportive, advisory capacity. Teacher has helpful colleagues with whom she discusses teaching.

7. Self-Perception of Teacher:
Teacher tries to keep all children within her sight so that she can make sure they are doing what they are supposed to do.

8. Assumptions about Children and Learning Process:
The emotional climate is warm and accepting. The class operates within clear guidelines made explicit. Academic achievement is the teacher's top priority for the children. Children are deeply involved in what they are doing.

The Open-Education Rating Scale and the Open-Education Questionnaire are composed of 50 identical items stated appropriately, third person and first person, respectively. For example, item 1 on the Rating Scale reads, "Teacher uses test results to group children for reading and/or math " and "I use test results to group children for reading and/or math" on the questionnaire. To facilitate the administration of the 50 items, the items were split and one-half administered as a questionnaire and one-half as an observational scale. Based on correlational data presented in the AERA Journal* article "Open Education: An Operational Definition and Validiation in Great Britain and United States," the items were divided into the two shorter instruments. The 25 items composing the Provisioning theme (subscale) were administered as the questionnaire, and the 25 items contained in the remaining seven themes (subscales) were administered as an observational scale.

The 25 questionnaire items are responded to by the individual teachers on a four point scale ranging from "strongly disagree" to "strongly agree". The observational scale items are rated by the observer on a four point scale from "no evidence" to "strong frequent evidence". The subscale scores are derived by adding the appropriate weighted item scores. The following chart presents the total possible score for each subscale.

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*Wahling, Leslie J. and Charters, W. W., Jr. "Dimensions of Teacher Beliefs about the Teaching Process". AERA Journal January 1969.

Chart 1

Possible Subscale Scores
for
the Walberg-Thomas Rating Scale and Questionnaire

SUBSCALE	POSSIBLE SCORE
1. Provisioning	100
2. Humaneness	16
3. Diagnosis	16
4. Instruction	20
5. Evaluation	20
6. Seeking	8
7. Self-Perception	4
8. Assumptions	16

The instrument items have been utilized in this study along with the Teacher Beliefs Survey and the LINC Classroom Observation Scale to help determine the grouping patterns for the various classrooms.

Classroom Observation Scale:

The LINC Classroom Observation Scale (COS) was developed to measure the physical aspects of the classroom and is administered by an outside observer. The COS is designed on a four-point negative to positive scale as rated by the observer. Four aspects of the classroom environment are rated. (The instrument is currently in the developmental stages, therefore, no validity or reliability studies have been conducted.) The four subscales are as follows:

Subscale 1. Use of Multi-Media Teaching:
Subscale 1 is concerned with the quantity of media materials: reference materials; maps; charts; models; old newspapers, magazines and telephone directories; and, audio-visual materials. Teacher-made materials and pupils' work displays are included.

Subscale 2. Use of Intra-Class Grouping:
This subscale measures the physical accommodations for varying kinds of activities and grouping arrangements. Also included are aspects relating to children helping one another and to free movement by the children.

Subscale 3. Differentiating Assignments:
Sample items are: children have individual assignments; children use materials at different levels of difficulty; and children receive individual assistance from teacher or aide.

Subscale 4. Promotion of Independence from Direct Supervision in Learning:
This subscale is designed to see if there are children in the classroom doing their work independent of the teacher's supervision. The items try to ascertain if the work is meaningful or "goofing off" and if the children proceed from one task to another without teacher intervention. The observer is forced to ask the teacher questions concerning the activities to determine if the teacher is aware of various activities.

Chapter 9

Evaluation Results

SAMPLE 1

Discussion of the Results

Physical Profile Data:

The physical profile data for the children involved in the 1972-73 kindergarten program evaluation is presented below in Table III.

Table III
Physical Profile Data

	PRE	POST	CHANGE
Age	66.3 months (5 yrs. 6.3 mo.) (N = 3256.)	73.8 months (6 yrs. 1.8mo.) (N = 1289.)	7.5 months
Height	44.3 inches (N = 3238.)	46.2 inches (N = 1284.)	1.9 inches
Weight	44.2 pounds (N = 3241.)	47.7 pounds (N = 1283.)	3.5 pounds

It may be observed that there was an average of seven and one-half months between the pre- and post-testing of the kindergarten children. There was an average increase in height of 1.9 inches and in weight of 3.5 pounds.

Home Information Scale and Preschool Inventory Scores (pre only):

Table IV presents the mean raw scores of the children on the Home Information Scale and Preschool Inventory.

Table IV
Home Information Scale and Preschool Inventory

	Pre - Test	
	Mean	Standard Deviation
Home Information Scale (N = 3187.)	40.59	11.65
Preschool Inventory (N = 3210.)	48.14	11.00

(See Table IV. The large standard deviations on these two instruments should indicate to the reader that there is a large amount of variance within the sample; however, no conclusions can be reached from the available data as to whether the sample is truly representative of the state's population.) These instruments -- the Home Information Scale and the Preschool Inventory -- were administered only at the beginning of the school year. The data is of immediate importance to the teachers for getting to know the individual children, some facts about their home environments and their previous experience. It is of long-term importance in several studies being conducted by LINC in relation to early childhood education. (See the discussion of Sample 2 in this chapter.) The results of these studies will be released as the studies are completed. (Correlation

of the data from the previous administrations of these instruments to other data relating to North Carolina children can be found in the First, Second, and Third Annual Kindergarten Evaluation Reports available through LINC.)

Draw-A-Man Test:

The following table (Table V) presents the raw score data and mental age equivalent* from the administration of the Draw-A-Man Test for the four years (1969-70, 1970-71, 1972-72, and 1972-73) of the North Carolina kindergarten/early childhood education program.

Table V
Draw-A-Man

YEAR	PRE		POST		GAIN		
	Raw Score	Mental Age	Raw Score	Mental Age	Raw Score	Mental Age	Chronological Age
1969-70	8.3*	5yr-2mo	11.5	5yr-11mo	3.2	9 mo	5.0 mo
1970-71	7.9	5yr-1mo	13.5	6yr-4mo	5.6	15 mo	8.0 mo
1971-72	9.3	5yr-4mo	15.7	6yr-10mo	6.4	18 mo	7.5 mo
1972-73	9.9	5yr-7mo	16.0	6yr-11mo	6.1	16 mo	7.5 mo

*Administered in December

The scores from the Draw-A-Man Test are significantly higher for the 1971-72 and 1972-73 children than for the first two years of administration of the instrument. There are two reasonable explanations for the difference. First, the teachers involved in the third and fourth years of the study

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* Julia Vane, "The Vane Kindergarten Test," Journal of Clinical Psychology, Monograph Series #2, 1968.

received better instruction on administration of the test. Each of the summer institutes conducted by the staff development coordinators involved a slide-tape presentation (available through LINC Productions) and/or a workshop on test administration. Also, workshops were conducted by the coordinators or a LINC consultant for schools requesting additional help in test administration. Second, the teachers receive more guidance in diagnostic and instructional techniques through the 1971 and 1972 Summer Institutes and follow-up workshops. The coordinators were available upon request to help teachers, individually and/or collectively, on any and all problems.

Figure 4 illustrates the mental age gains made on the Draw-A-Man Test for the four years, compared to chronological age gains for the same period.

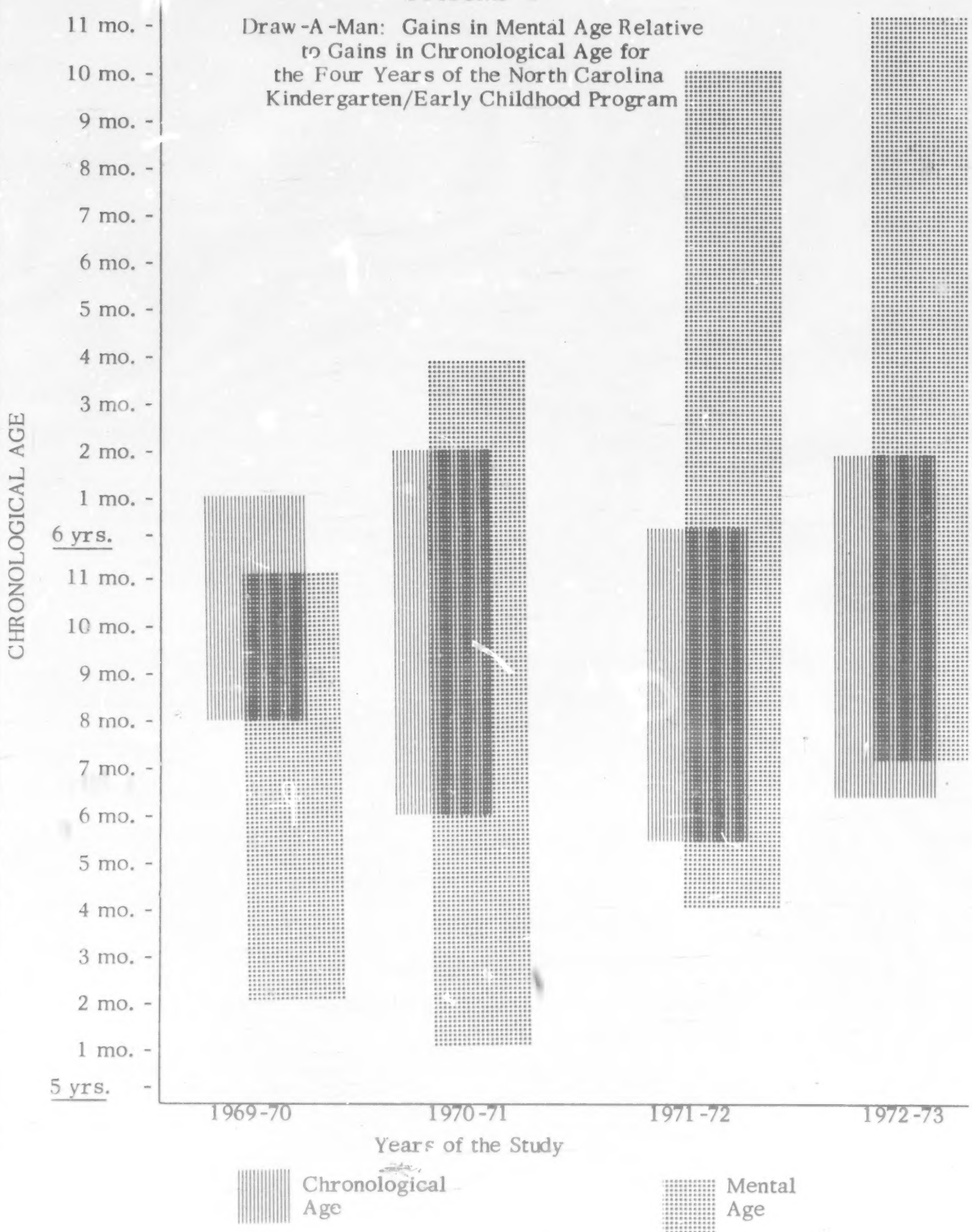
Conclusions:

1. It may be concluded, based on the data from the pre- and post-test administrations of the Draw-A-Man Test, that children involved in the North Carolina kindergarten program will gain approximately two months in mental age for every one month of involvement in the program.

2. The available data also indicate that children have made larger yearly gains during the last two years of the program. There are two factors contributing to this conclusion: (a) greater sophistication in administering the test due to better instruction during the summer institutes from LINC staff; and (b) better overall staff development via the summer institutes and follow-up training sessions.

FIGURE 4

Draw-A-Man: Gains in Mental Age Relative to Gains in Chronological Age for the Four Years of the North Carolina Kindergarten/Early Childhood Program



Test of Basic Experiences:

The following table presents the mean raw scores and the percentile equivalents for the Test of Basic Experiences: Language for the four years of the pilot kindergarten program in North Carolina. Figure 5 presents the rankings graphically.

Table VI
Test of Basic Experiences: Language Subtest

	PRE		POST		GAIN
YEAR	Mean	Percentile Equivalent	Mean	Percentile Equivalent	Percentile Equivalent
1969-70	15.3*	29th	20.7	64th	35 points
1970-71	14.3	23rd	20.5	63rd	40 points
1971-72	16.0	32nd	22.0	74th	42 points
1972-73	16.7	37th	22.4	76th	39 points

*Administered in December

The following table presents the mean raw scores and percentile rankings for the TOBE: Mathematics for the four years of the kindergarten program. The percentile rankings for mathematics are presented graphically in Figure 6.

Table VII

Test of Basic Experiences: Mathematics Subtest

YEAR	PRE		POST		CAIN
	Mean	Percentile Equivalent	Mean	Percentile Equivalent	Percentile Equivalent
1969-70	16.8*	33rd	20.4	59th	34 points
1970-71	15.1	24th	20.2	56th	32 points
1971-72	16.5	32nd	21.4	66th	34 points
1972-73	16.8	34th	21.6	68th	34 points

*Administered in December

It may be observed that the mean raw scores for the pre-testing for the four years of the project are within two raw score points of one another on both language and mathematics tests. The data indicates that the five-year-olds involved in the program enter kindergarten in the bottom one-third of the national five-year-old sample and by the end of the year the North Carolina children's average was near or in the top one-third of the national sample ranking. It may also be noted that the students had higher mean percentile equivalents in the third and fourth years of the program.

Conclusions:

1. Five-year-old children who participated in the North Carolina Kindergarten/Early Childhood Education Program for the 1972-73 school year progressed from a mean raw score of 16.7 (37th percentile) on the TOBE: Language at the beginning of the year to a mean raw score of 22.4

FIGURE 5

Comparison of Gain Scores
On the TOBE: Language Test
For the Four Years of the Program

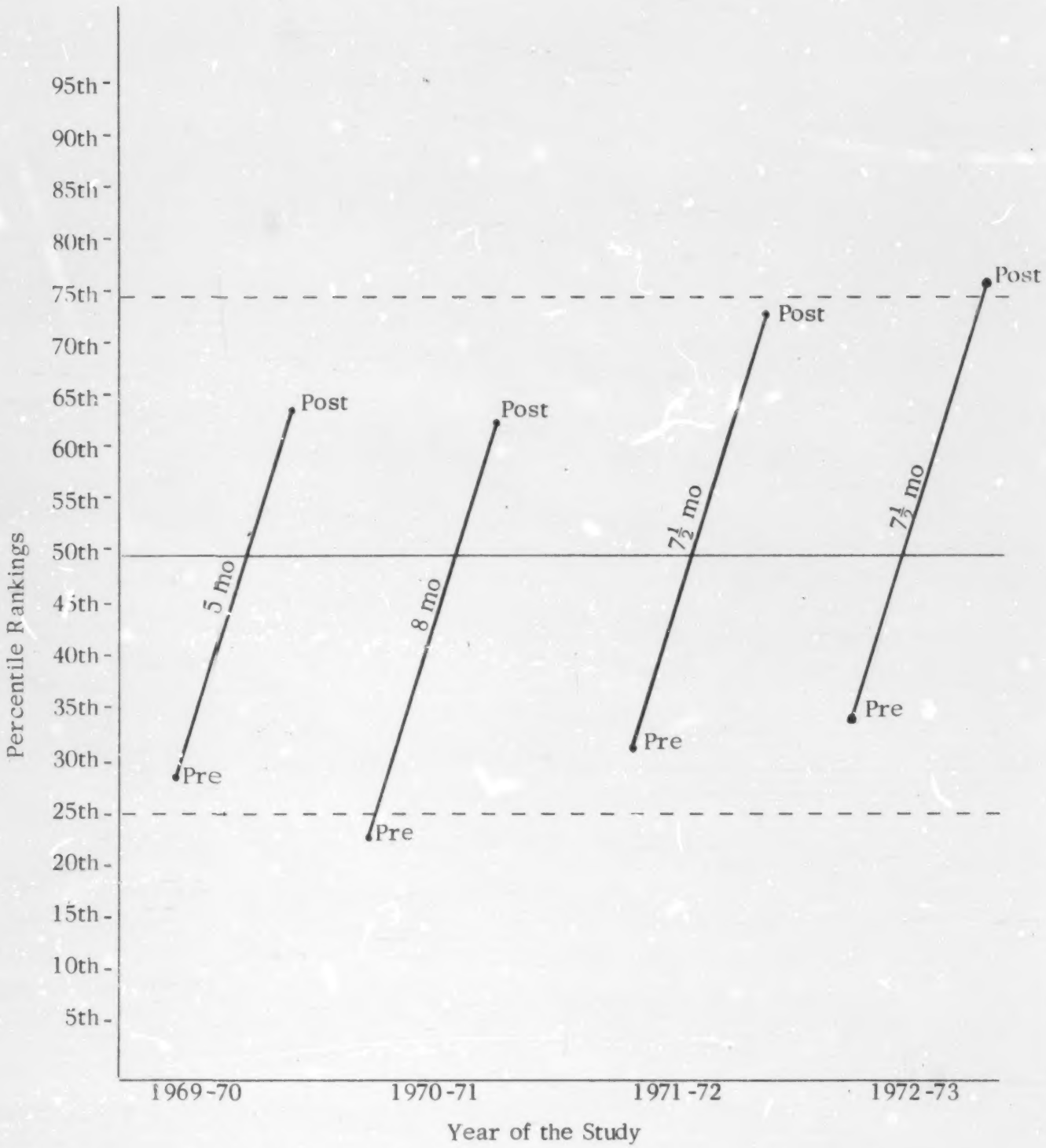
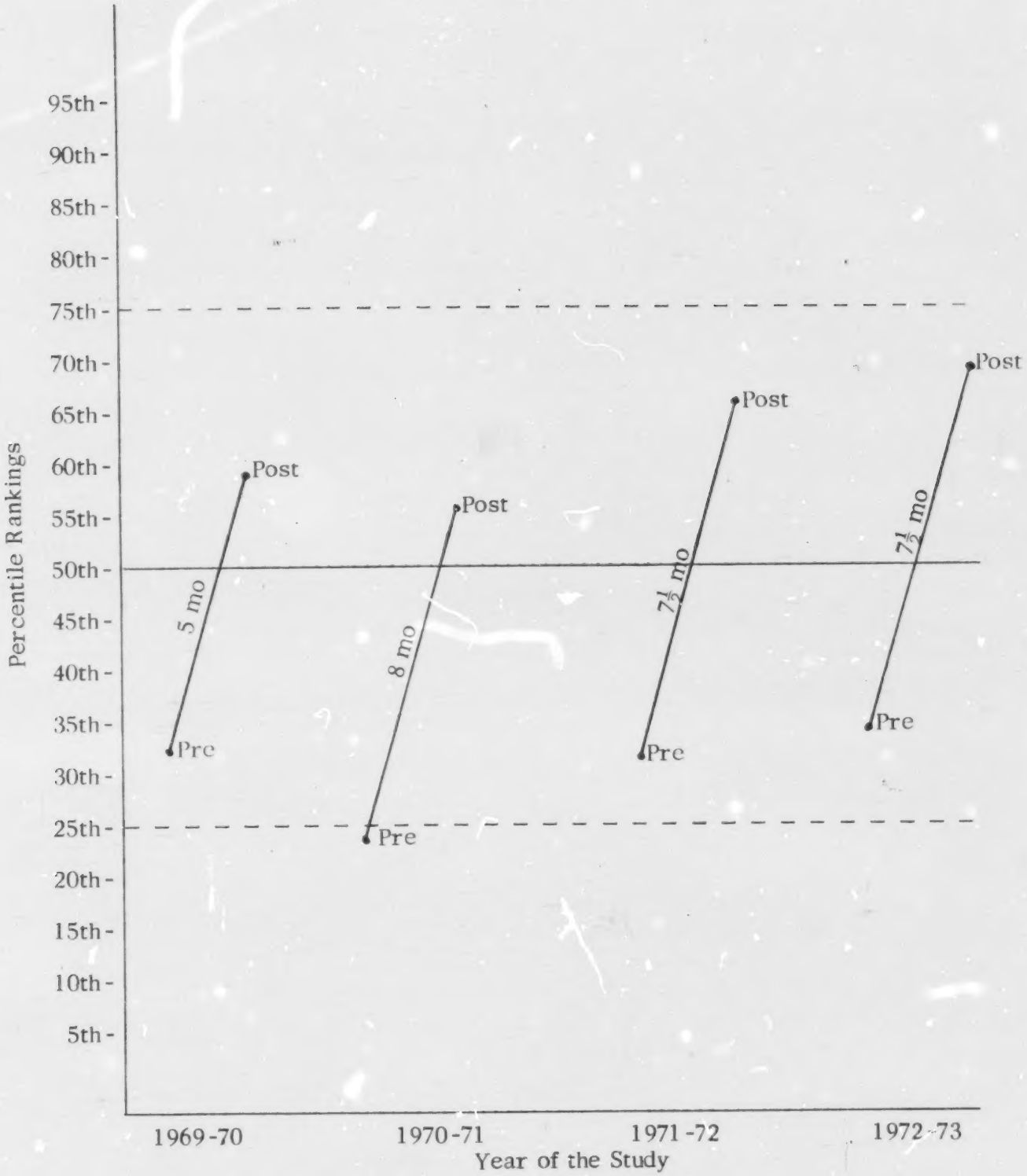


FIGURE 6

Comparison of Gain Scores
On the TOBE: Mathematics Test
For the Four Years of the Program



(76th percentile) in the post-test for a gain of 39 percentile points.

2. The participating five-year-olds advanced from a mean raw score 16.8 (34th percentile) on the TOBE: Mathematics pre-test to a post-test score of 21.6 (68th percentile). This indicates an increase of 34 percentile points.

3. Greater change scores (gains) were realized on the language subtest for three of the four years of the pilot study than on the mathematics.

4. At the end of the school year, participating children scored in the upper one-third of the national percentile rankings on both the language and mathematics subtests for the last two years of the pilot program.

Classroom Behavior Inventory:

The following table presents the data from the 1972-73 administrations of the Classroom Behavior Inventory according to the three subscales. Figure 7 presents a graphic display of these data.

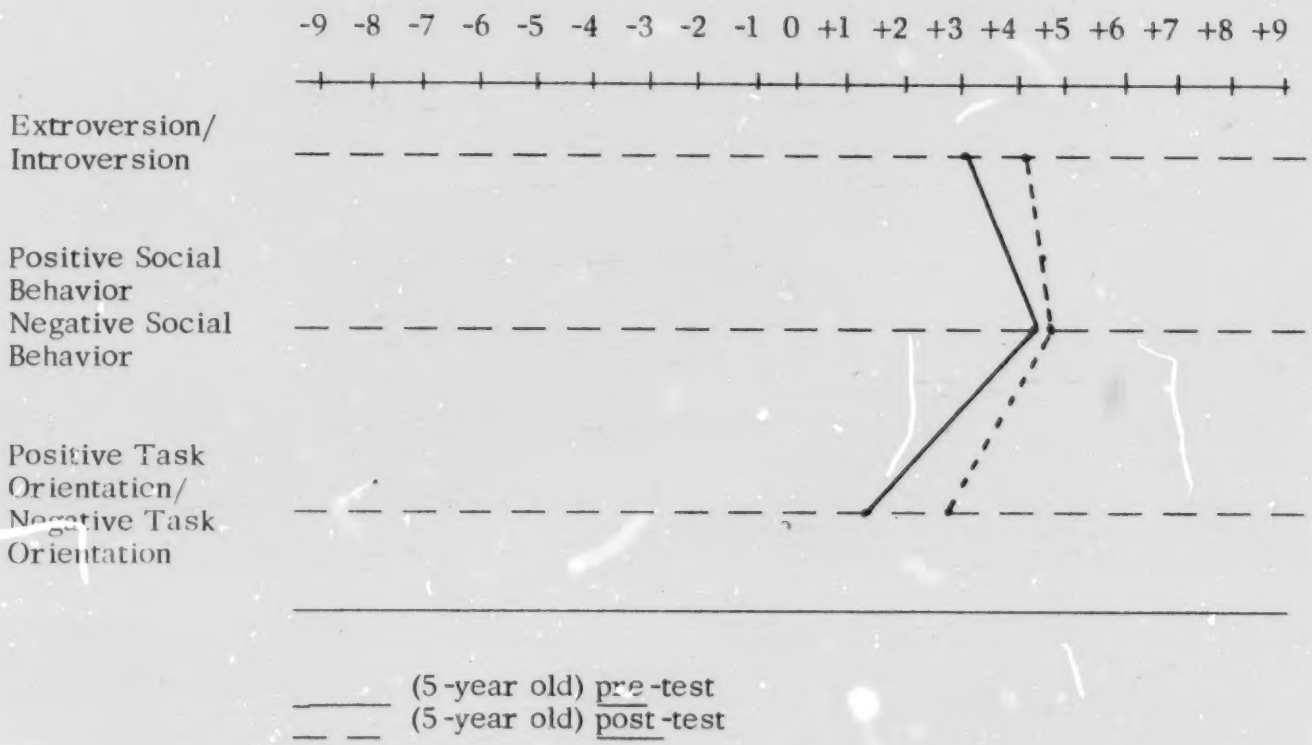
Table VIII
Classroom Behavior Inventory

SUBTESTS	Pre N=3220		Post N=1244		
	Mean	Standard Deviation	Mean	Standard Deviation	"t" Value
**Extroversion/ Introversion	3.05	4.56	4.20	3.89	8.41
**Positive/Negative Social Behavior	4.25	3.85	4.69	3.76	3.48
**Positive/Negative Task Orientation	1.42	4.98	2.98	4.84	9.58

**Indicates significant positive change at .001 level.

FIGURE 7

Classroom Behavior Inventory
(5- and 6-Year Old Data)



The "t" -test for significance was used to determine if the gains made by the children were significant at the .01 level. In every case the value of "t" indicated a .001 level of significance.

Conclusions:

It may be observed that there was significant (.001) positive change on all three subscales of the CBI for the participating five-year-old students. It may, therefore, be concluded that participants in the fourth year of the kindergarten program: a) show more extroverted behavior (this is to be interpreted as less introverted - shy, withdrawn) at the end of the year than at the beginning; b) appear to be more considerate and tolerant of others at the time of post-testing than at pre-testing; and c) appear to complete more initiated tasks at the end of the year than at the beginning.

SAMPLE 2

The teachers and their respective children from the 20 centers new to the program in 1972-73 were selected for the following study. Data were collected from the teachers and children to form a data base for the study described herein and for continuing research by LINC. The following analyses are the preliminary steps in analyzing the data from this study. (LINC is currently seeking funding to support a continuing study of both these teachers and these children.) As the data are processed and significant results are identified, addenda to this report will be submitted to the State Board of Education and SDPI.

A random selection of 200 children from all of those tested at the beginning of the school year was identified by a computerized selection method. Three children were omitted because of incorrect or missing data. The remaining children (N=197) became the grouping sample to determine if there were identifiable patterns of response for the available data. A Q-mode factor analysis was used to determine the patterns of scores on each of the instruments used in the study. Four group patterns were identified and are described* below. (The description reflects only those aspects measured by the instruments used.) The data are presented in Table IX and are graphically represented in Figure 8. The names assigned to each of the groups are for convenience and are not intended to fully describe the groups. (The reader should note that the scoring patterns were determined

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* These descriptions appear to be valid at this time; however, in order to validate the existence of these groups sub-group replication samples are being drawn for subsequent analyses.

without regard for the levels of response.)

Group 1:*
These children bring above-average skills with them when they enter the kindergarten program. Their scores on the Preschool Inventory, the Draw-A-Man test and both subtests of the TOBE are above average. They also score positively on the three subscales of the Classroom Behavior Inventory with the highest score on task orientation. Their Home Information Scale scores are slightly below average.

Group 2:
The children in Group 2 had below average skills at the beginning of the kindergarten program and exhibited extroverted behavior and negative social behavior and task orientation. Involvement from home appears to be about average.

Group 3:
Group 3 is composed of children who begin kindergarten with low preschool skills and low home involvement. They are introverted, exhibit positive social behavior and negative task orientation.

Group 4:
The children in Group 4 have a high level of home involvement and about average preschool skills. Their scores on the Classroom Behavior Inventory are positive on all three subscales.

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* Sex, race, and age were entered as possible factors in the response patterns; however, they were not determinates in either of the groups.

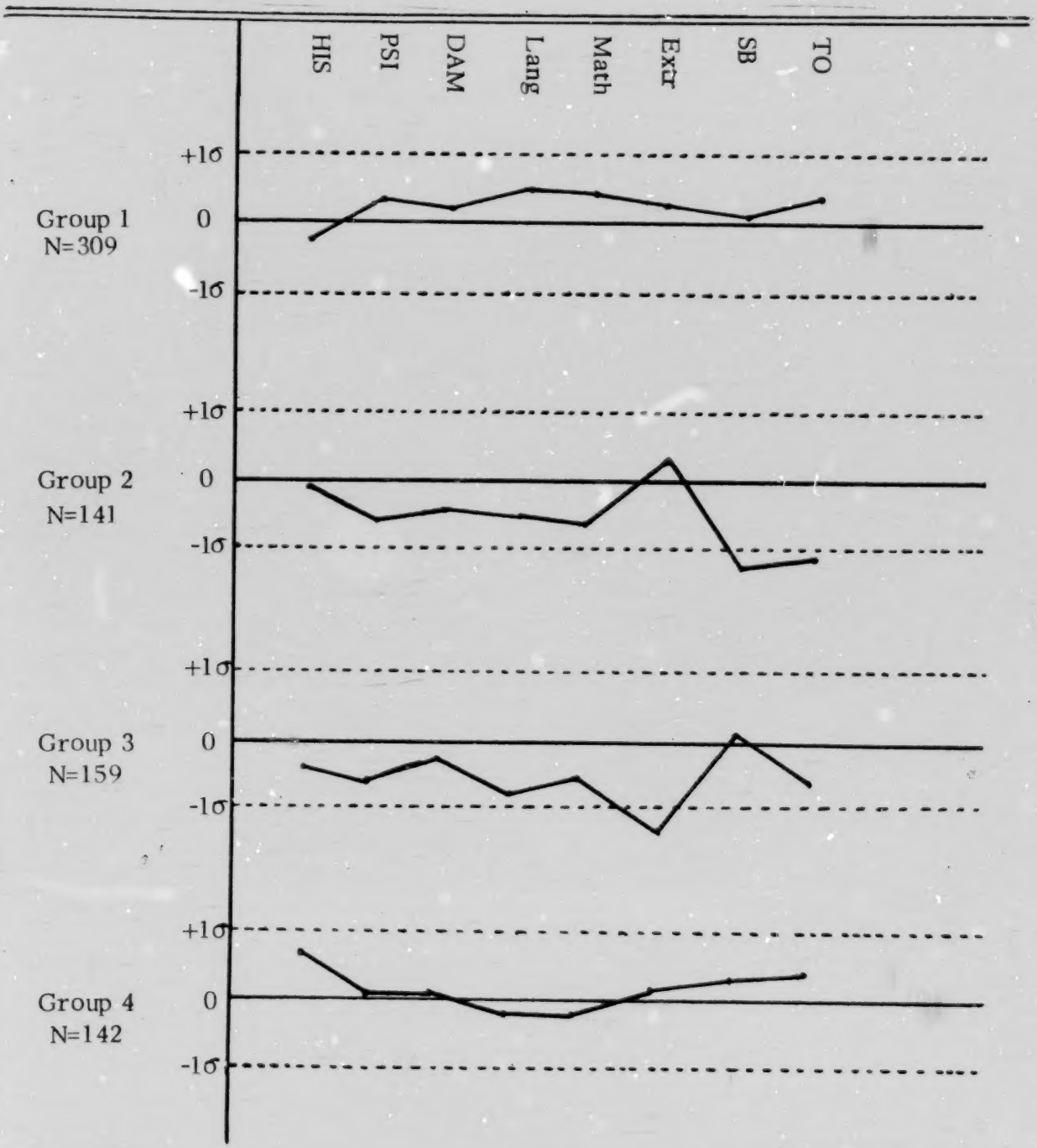
Table IX
Mean Instrument Score Responses for the Total Grouping Sample
and Each of the Four Groups of Five-Year-Olds and $\bar{z}$ Scores

	Grouping Sample N = 197		Group 1 N = 85			Group 2 N = 37			Group 3 N = 35			Group 4 N = 36		
	Mean	Standard Deviation	Mean	Standard Deviation	$\bar{z}$ Score	Mean	Standard Deviation	$\bar{z}$ Score	Mean	Standard Deviation	$\bar{z}$ Score	Mean	Standard Deviation	$\bar{z}$ Score
*1. HIS	41.68	12.26	40.04	12.10	-.13	41.00	9.66	-.06	37.48	12.32	-.34	50.45	11.28	.72
2. PSI	48.58	11.63	52.85	8.58	.37	42.29	11.88	-.54	42.82	15.25	-.50	50.62	8.29	.18
3. DAM	9.57	4.63	10.73	4.47	.25	7.62	3.42	-.42	8.47	5.70	-.24	10.13	4.36	.12
4. Lang.	17.06	5.11	19.96	4.29	.57	14.45	3.91	-.51	13.74	5.10	-.65	16.38	4.63	-.13
5. Math.	17.01	5.11	19.54	3.92	.50	14.19	4.49	-.55	14.20	4.94	-.55	16.22	5.47	-.15
6. Extr.	3.23	4.55	4.64	3.40	.31	5.21	2.82	.44	-2.48	4.34	-1.25	3.75	4.25	.11
7. SB	4.13	4.03	5.24	3.03	.28	.40	4.36	-1.12	5.02	3.26	.20	5.69	2.91	.39
8. IC	1.35	5.00	3.82	3.77	.49	-3.94	3.55	-1.06	-1.00	4.90	-.47	3.86	3.01	.50

*These numbers correspond to the numbers on Figure 8 and are used to identify the respective instruments.

FIGURE 8

Graphic Presentation of the
Mean Instrument Score Response Patterns for
Each of the Four Groups of Five-Year-Olds
(T Scores)



After identification of the grouping patterns a discriminant function analysis was used to assign the Sample 2 children into the appropriate groups according to their pre-test scores. These are the actual study groups for the analyses presented in this report and for subsequent analyses to be reported as they are completed.

Table X, below, presents the number of children assigned to the groups from the total Sample 2 population.

Table X

Group	Number of Children
1	309
2	141
3	159
4	142

The teachers involved in the study were grouped by a Q-mode factor analysis also. The patterns of responses to the items of the three instruments used to investigate teacher beliefs and practices and classroom environments. Three patterns of response were identified and are described below. (Again as with the groups of children, these descriptions reflect only those aspects measured by the instruments.) The data are presented Table XI and are graphically represented in Figure 9 . The names assigned to each group are for convenience

Table* XI

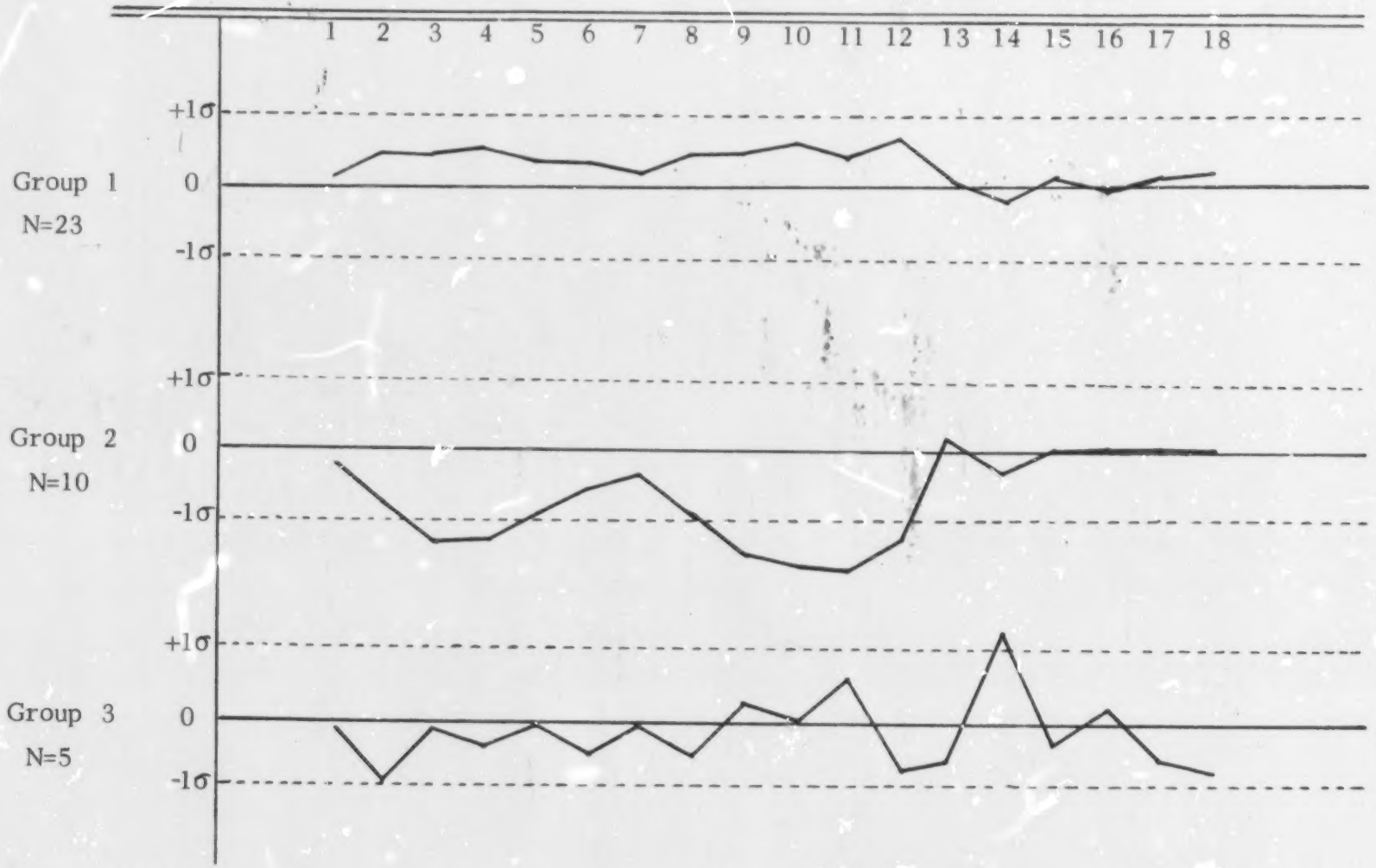
Mean Subtest Score Responses for the Total Teacher Sample and Each of the Three Groups of Teachers and Z Scores

	Grouping Sample N = 38		Group 1 N = 23			Group 2 N = 10			Group 3 N = 5		
	Mean	Standard Deviation	Mean	Standard Deviation	Z Score	Mean	Standard Deviation	Z Score	Mean	Standard Deviation	Z Score
W/T 1	78.50	14.52	80.43	13.79	.13	75.20	13.08	-.23	76.20	11.52	-.16
W/T 2	11.84	3.95	13.86	1.45	.51	9.00	3.49	-.72	8.20	6.72	-.92
W/T 3	10.18	1.88	11.13	1.57	.51	8.10	1.10	-1.11	10.00	.70	-.10
W/T 4	12.18	3.05	13.91	2.35	.57	8.70	1.05	-1.14	11.20	2.16	-.32
W/T 5	12.78	3.50	14.30	3.23	.43	9.40	2.01	-.97	12.60	2.19	-.05
W/T 6	5.73	2.29	6.56	1.40	.36	4.40	2.11	-.58	4.60	4.21	-.49
W/T 7	3.05	1.22	3.26	.96	.17	2.60	1.34	-.37	3.00	2.00	-.04
W/T 8	12.13	3.16	13.73	2.28	.51	9.10	2.33	-.96	10.80	3.42	-.42
COS 1	21.18	5.51	24.13	3.49	.54	14.00	3.36	-1.30	22.60	2.07	.26
COS 2	20.91	14.63	23.90	1.54	.65	14.30	2.40	-1.43	21.00	3.08	.02
COS 3	19.70	5.97	22.81	2.42	.42	11.00	3.59	-1.46	23.40	1.14	.62
COS 4	19.67	9.01	25.95	2.55	.70	9.40	5.56	-1.14	12.60	9.20	-.78
TBS 1	10.18	2.47	10.31	2.77	.05	10.70	1.55	.21	8.69	2.22	-.60
TBS 2	19.90	4.00	19.17	3.72	-.18	18.96	2.53	-.24	24.77	4.46	1.22
TBS 3	-7.26	1.65	-7.10	1.86	.10	-7.35	1.26	.05	-7.83	1.41	-.35
TBS 4	5.34	1.60	5.27	1.71	-.04	5.37	1.15	.02	5.57	2.07	.14
TBS 5	6.76	1.90	6.95	2.03	.10	6.87	1.54	.06	5.69	1.88	-.56
TBS 6	-9.32	2.25	-8.97	2.35	.16	-9.26	1.34	.03	-10.94	2.76	-.72

*See the accompanying key for identification of the subtests.

FIGURE 9

Graphic Presentation of the Mean Subtest Score Response Patterns for Each of the Three Groups of Teachers (Z Scores)



Key for Table XI and Figure 9

(1)	*W/T 1	Provisioning
(2)	W/T 2	Humaneness
(3)	W/T 3	Diagnosis
(4)	W/T 4	Instruction
(5)	W/T 5	Evaluation
(6)	W/T 6	Seeking
(7)	W/T 7	Self-Perception
(8)	W/T 8	Assumptions
(9)	COS 1	Multi-Media Teaching
(10)	COS 2	Intra-Class Grouping
(11)	COS 3	Differentiating Assignments
(12)	COS 4	Independence from Direct Supervision in Learning
(13)	**TBS 1	Student Involvement in Planning
(14)	TBS 2	Emphasis on Subject-Matter Content
(15)	TBS 3	Student-Regulated vs. Teacher-Regulated Classrooms
(16)	TBS 4	Teacher Empathy
(17)	TBS 5	Student Freedom and Autonomy in Learning
(18)	TBS 6	Specialization vs. Integration of Disciplines

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*These numbers correspond to the numbers on Figure and are used to identify the respective subtests.

**Low scores on the Teacher Beliefs Survey are indicative of the subtest headings.

are not intended to fully describe the groups.

Group A: Child-Centered Classroom Teachers

The teachers assigned to Group A had response patterns that indicate positive relationships among all of the sub-tests. These teachers appear to have a well-balanced relationship between teacher beliefs and practices and classroom environment. Their mean subtest scores also indicate more positive responses than the two subsequent groups.

Group B: Restricted Classroom Teachers

These teachers have subtest mean scores that indicate that they are less concerned with either the diagnosis of the needs of children or the individualization of learning experiences. The Group B teachers also had very low mean subtest scores on the Classroom Observation Scale which indicate that the classrooms of these teachers are not equipped in such a way as to allow for individualized teaching. The teachers appear to have a response pattern similar to Group A on the teacher beliefs scales.

Group C: (Not labeled at this time)

(Group C is composed of only five teachers: a very small group. Some data are presently missing from two of the teachers; therefore, for this report a group description will

not be formulated. The data for the teachers and their children are presented and will be considered as a component of the study until further analyses can be completed which will determine if the group is valid. Subsequent studies will be presented as addenda to this report and forwarded to the State Board of Education upon completion.)

Group C will not be labeled at this time to avoid inappropriate or unfair implications.

Discussion of Results

The following analyses have been completed as a preliminary study of the Sample 2 data in an attempt to provide the bases for more comprehensive research into some of the issues confronting early childhood education today. It would appear that the results of these studies will have implications for the North Carolina educational process. The sample sizes are small but adequate for raising issues for further research. These results are not presented as the final answers but as the beginnings of new questions.

Two of the initial studies have been completed:

1. The four groups of children have been compared in regard to their mean change scores on both achievement tests and noncognitive measures. The data for achievement tests for Groups 1 to 4 are presented in Tables XII to XV, respectively. The data are graphically represented in Figure 10. The changes in the scores of the noncognitive measures for Groups 1 to 4 are graphically represented in Figures 11 to 13, respectively. The data are presented in Tables XVI to XIX.

Conclusions: (The reader is cautioned that these conclusions are based on mean changes, only. There have been no adjustments made for intelligence or preschool achievement.)

1. The children in Group 4 made the largest positive change on both the Language and Mathematics subtests after a year's kindergarten experience.

2. The children in Group 1 made the least positive change on the Language subtest.

Table XII

Group 1 Children
Achievement Test Score Changes (Pre-Post)

Means

Test	Pre	Post	Changes Percentile points
Lang.	20.22	29.38	40
	59th %-ile	99th %-ile	
Math	20.29	27.98	42
	56th %-ile	98th %-ile	

Table XIII

Group 2 Children
Achievement Test Score Changes (Pre-Post)

Means

Test	Pre	Post	Changes Percentile Points
Lang.	14.21	20.94	43
	23rd %-ile	66th %-ile	
Math	14.43	20.63	39
	21st %-ile	60th %-ile	

Table XIV

Group 3 Children
Achievement Test Score Changes (Pre-Post)

Means

Test	Pre	Post	Changes Percentile points
Lang.	13.89 20th %-ile	22.15 75th %-ile	55
Math	14.44 22nd %-ile	21.55 67th %-ile	45

Table XV

Group 4 Children
Achievement Test Score Changes (Pre-Post)

Means

Test	Pre	Post	Changes Percentile points
Lang.	15.44 29th %-ile	28.55 99th %-ile	70
Math	15.94 29th %-ile	26.34 98th %-ile	69

FIGURE 10

Graphic Representations of the Percentile Gains on the TOBE: Language and Mathematics Subtests From Each of the Four Groups of Children

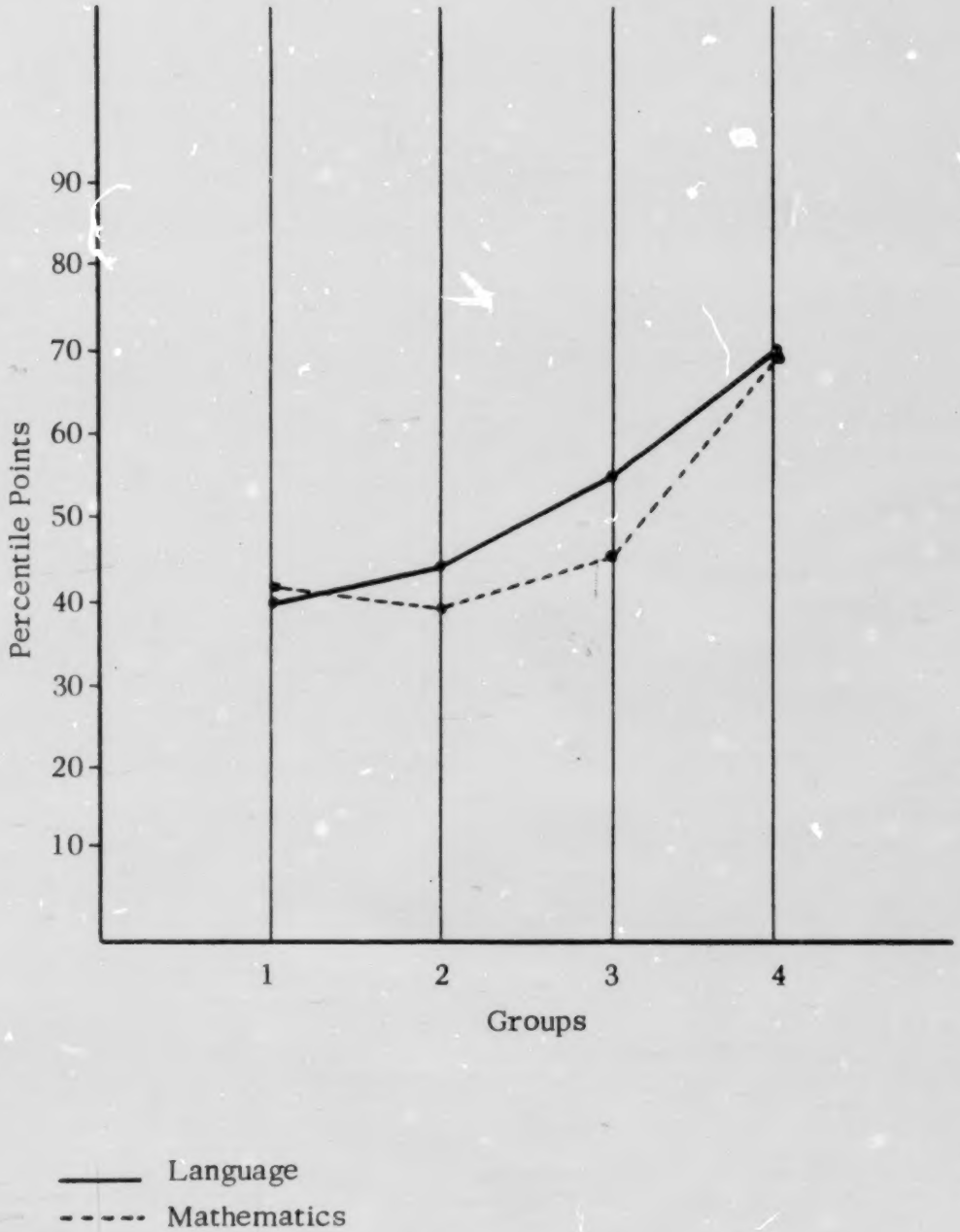


Table XVI

Group 1 Children
Non-Cognitive Subtest Changes (Pre-Post)

Subscale	Means		
	Pre	Post	Change
E/I	4.82	5.50	.68
SB	4.97	5.27	.30
TO	4.00	4.75	.75

Table XVII

Group 2 Children
Non-Cognitive Subtest Changes (Pre-Post)

Subscale	Means		
	Pre	Post	Change
E/I	5.36	5.16	-.20
SB	-0.96	0.91	1.87
TO	-4.04	-.78	3.26

Table XVIII

Group 3 Children
Non-Cognitive Subtest Changes (Pre-Post)

Subscale	Means		
	Pre	Post	Change
E/I	-2.79	1.71	4.50
SB	5.42	5.51	.09
TO	-1.50	2.41	3.90

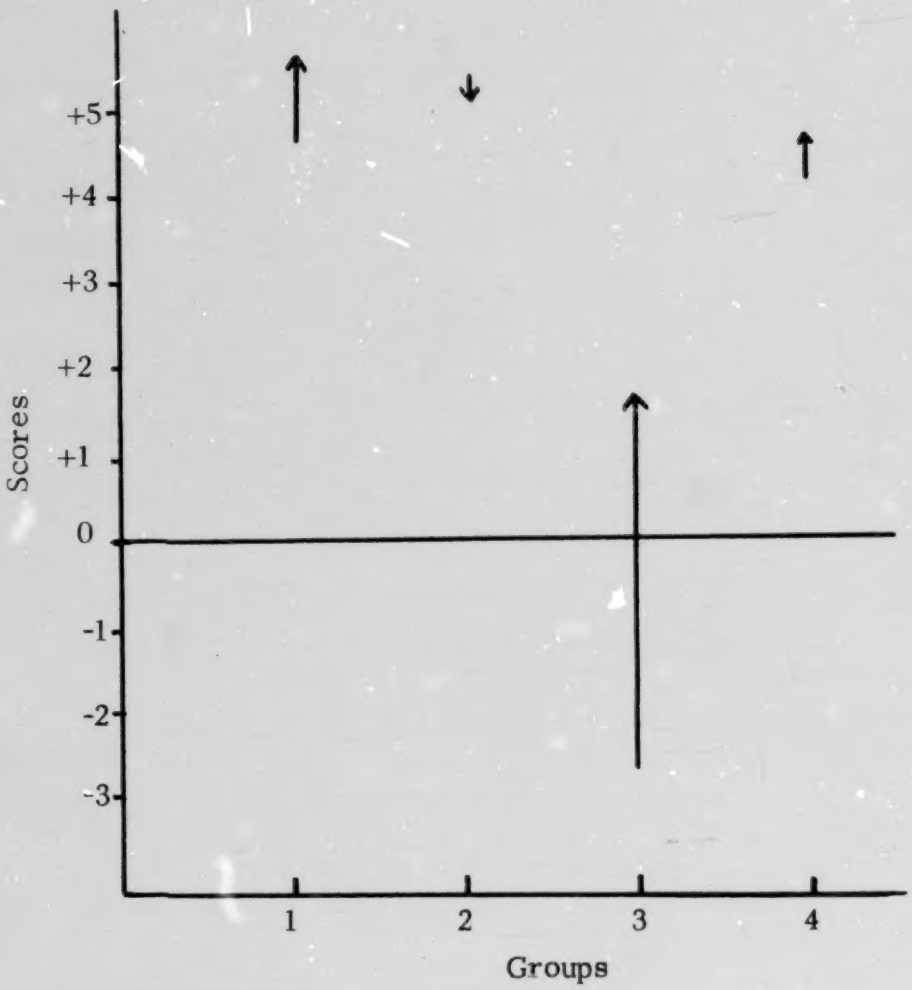
Table XIX

Group 4 Children
Non-Cognitive Subtest Changes (Pre-Post)

Subscale	Means		
	Pre	Post	Change
E/I	4.18	4.84	.66
SB	5.17	5.64	.47
TO	3.96	4.11	.15

FIGURE 11*

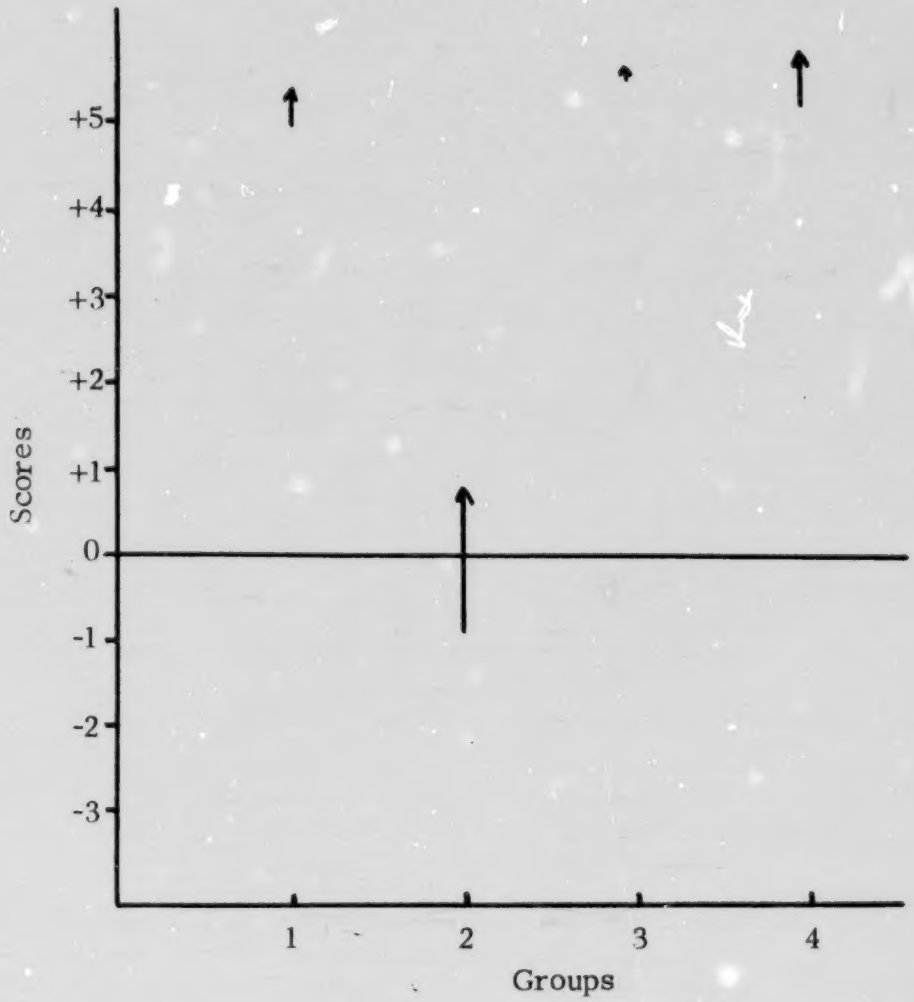
Graphic Representation of the Non-Cognitive Subtest Changes for Each of the Four Groups of Children Extroversion/Introversion



*The direction of the arrow indicates direction of the change.

FIGURE 12 *

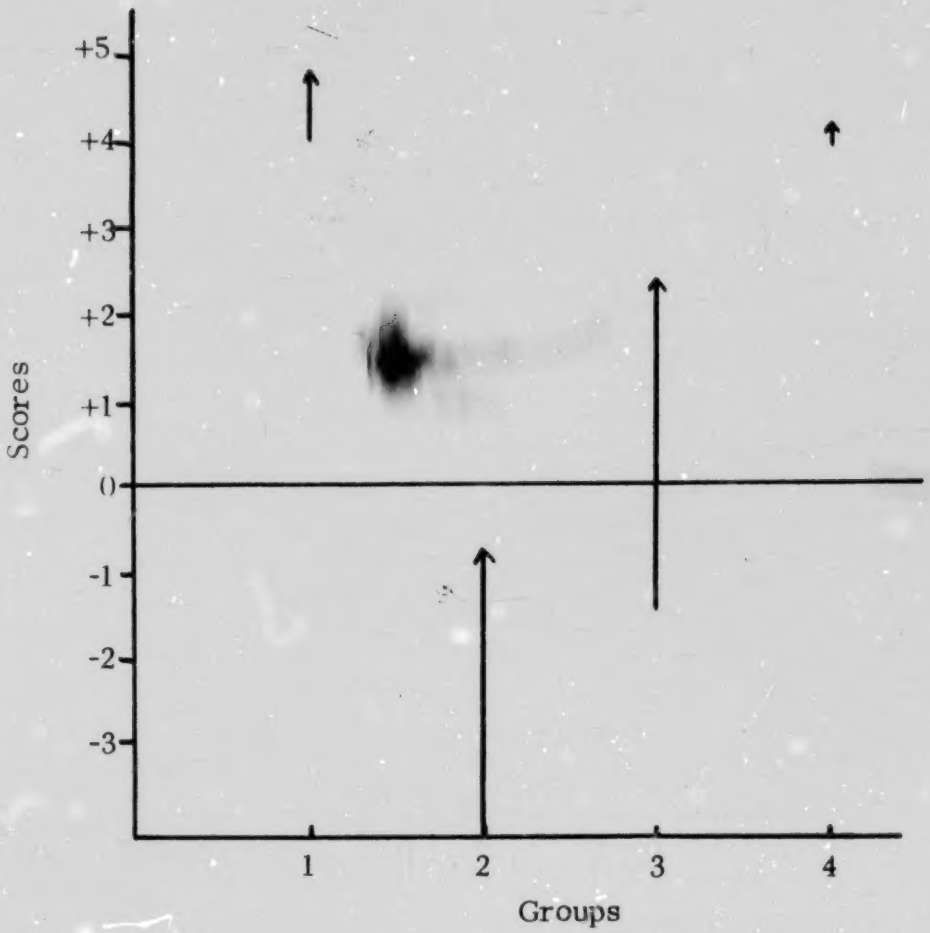
Graphic Representation of the Non-Cognitive Subtest Changes for Each of the Four Groups of Children Social Behavior



*The direction of the arrow indicates direction of the change.

FIGURE 13 *

Graphic Representation of the Non-Cognitive Subtest Changes for Each of the Four Groups of Children Task Orientation



*The direction of the arrow indicates direction of the change.

3. The children in Group 2 made the least positive change on the Mathematics subtest.

4. Group 3 made the largest positive change on the Extroversion/ Introversion subtest. Group 2 had a small negative change on this subtest.

5. Group 2 made the largest positive change on the Social Behavior subtest and group 3 had the smallest change. All groups had positive changes.

6. Groups 2 and 3 made large positive changes on theTask Orientation subtest. Groups 1 and 4 had much smaller changes; however, all four groups did move in a positive direction.

7. Overall, Group 1 children appear to have benefited least from their kindergarten experience.

2. The children in the study have been grouped according to the type of teacher they had last year -- a) child-centered classroom teacher, b) restricted classroom teacher, and c) (unlabeled at this time). These three new subgroups of children have then been compared according to their mean change scores on both achievement tests and noncognitive measures. The data for the achievement tests for Subgroups 1 to 3 are presented in Tables XX to XXII, respectively, and are graphically represented in Figures 14. Noncognitive data are presented in Tables XXIII to XXV and Figures 15 to 17.

Conclusions: (The reader is cautioned that these conclusions are based on mean changes, only. There have been no adjustments made for intelligence or preschool achievement.)

1. The children taught by the Group A teachers (child-centered classroom teachers) in our study indicated the greatest positive changes on the TOBE: Language and Mathematics subtests.

2. The children of both Groups B and C teachers (the unlabeled teacher group) appear to have similar changes on both subtests with the greater changes on the Language subtest.

3. The children of the Group B teachers made the greatest positive change on the Extroversion/Introversion subscale and the children of Group C teachers made the least change. Children in all three groups made positive changes.

4. On the Social Behavior subscale, the children of Group A and Group B teachers had positive changes with Group B having the greatest change.

Table XX

Children in the Classrooms of Group A Teachers (Subgroup 1)
Achievement Test Score Changes (Pre-Post)

Test	Means Pre	Means Post	Change Percentile Points
Lang.	16.64	27.56	60
	38th %-ile	98th %-ile	
Math	17.01	26.41	62
	36th %-ile	98th %-ile	

Table XXI

Children in the Classrooms of Group B Teachers (Subgroup 2)
Achievement Test Score Changes (Pre-Post)

Test	Means Pre	Means Post	Change Percentile Points
Lang.	17.45	22.72	38
	42nd %-ile	80th %-ile	
Math	17.31	21.42	30
	37th %-ile	67th %-ile	

Table XXII

Children in the Classrooms of Group C Teachers (Subgroup 3)
Achievement Test Score Changes (Pre-Post)

Test	Means		
	Pre	Post	Change Percentile Points
Lang.	17.44	23.17	41
	42nd %-ile	83rd %-ile	
Math	17.67	22.01	32
	39th %-ile	71st %-ile	

FIGURE 14

Graphic Representations of the Percentile Gains on the TOBE: Language and Mathematics Subtests from the Children In the Classrooms of Each of the Three Groups of Teachers

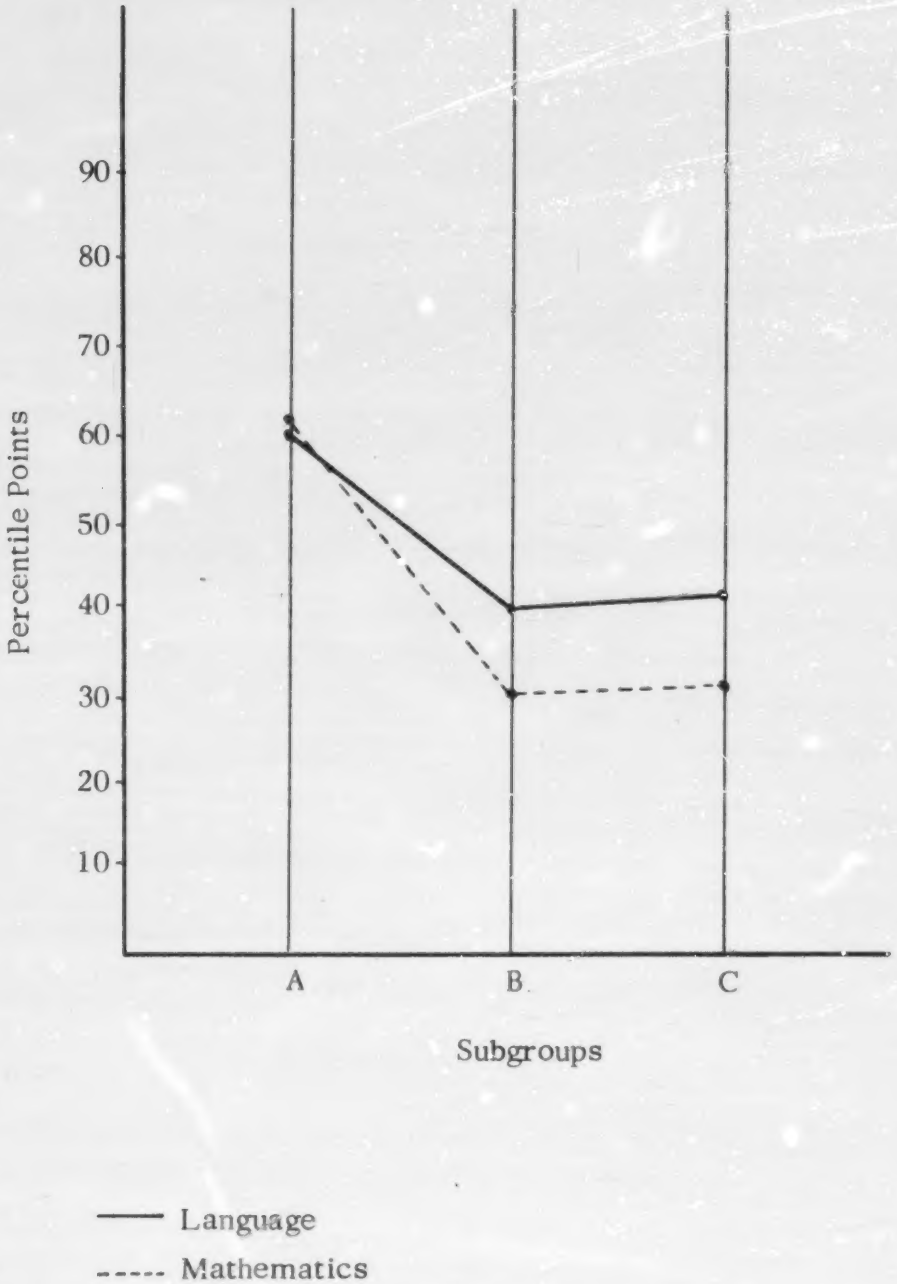


Table XXIII

Children in the Classrooms of Group A Teachers
Non-Cognitive Subtest Changes (Pre-Post)

Subscales	Pre	Post	Change
E/I	3.18	4.64	1.46
SB	3.72	4.51	.79
TO	1.40	3.17	1.77

Table XXIV

Children in the Classrooms of Group B Teachers
Non-Cognitive Subtest Changes (Pre-Post)

Subscales	Pre	Post	Changes
E/I	2.79	4.78	1.99
SB	4.54	5.85	1.31
TO	-0.27	3.70	4.97

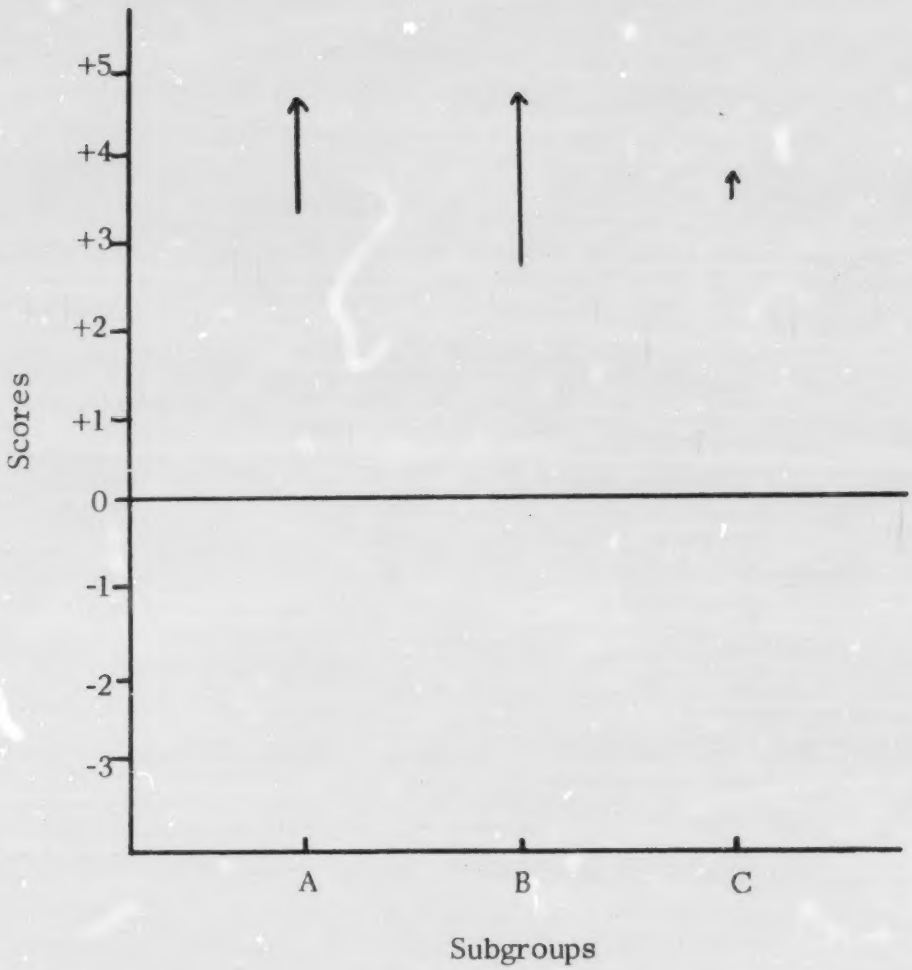
Table XXV

Children in the Classrooms of Group C Teachers
Non-Cognitive Subtest Changes (Pre-Post)

Subscales	Pre	Post	Changes
E/I	3.56	3.70	.26
SB	4.57	3.35	-1.22
TO	1.85	2.17	.32

FIGURE 15 *

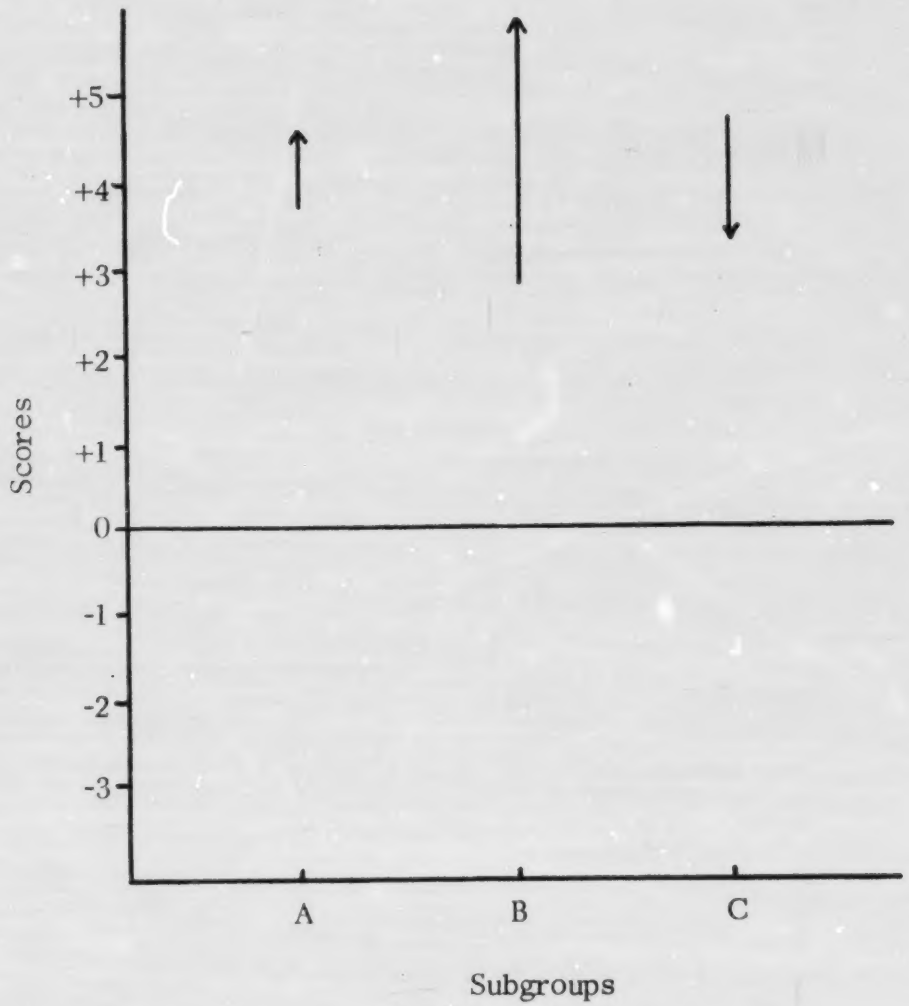
Graphic Representation of the Non-Cognitive Subtest
Changes for the Children of Each of the Three Groups of Teachers
Extroversion/Introversion



*The direction of the arrow indicates direction of the change.

FIGURE 16 *

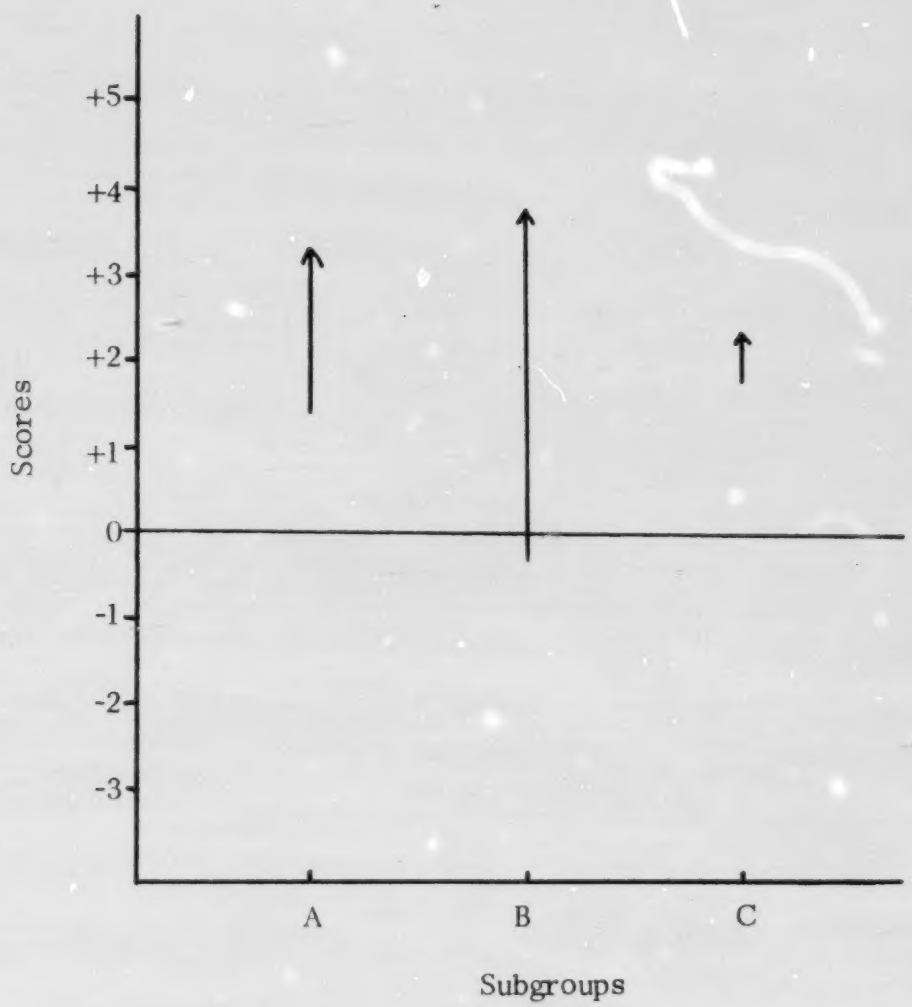
Graphic Representation of the Non-Cognitive Subtest
Changes for the Children of Each of the Three Groups of Teachers
Social Behavior



*The direction of the arrow indicates direction of the change.

FIGURE 17 *

Graphic Representation of the Non-Cognitive Subtest Changes for the Children of Each of the Three Groups of Teachers' Task Orientation



*The direction of the arrow indicates direction of the change.

Scores for Group C children indicate a negative change on this subscale.

5. Scores on the Task Orientation subscale indicate that all changes were in a positive direction. Group B children's scores indicate the greatest change, and Group C children's scores indicate the least change.

6. The children in the classrooms of the Group A teachers appear to achieve more during the kindergarten year than children from the other two groups of teachers. These children also appear to make positive changes on all three noncognitive subscales.

7. The children of the Group B teachers, made the greatest positive changes on all three subscales of the noncognitive measures.

8. The scores of the children of Group C teachers indicate that these children make the least achievement and noncognitive gains during the kindergarten year of the children included in our study.

Chapter 10

VITAL RESEARCH ISSUES RELATING TO THE NORTH CAROLINA EARLY CHILDHOOD EDUCATION PROGRAM

The evaluation efforts of the North Carolina pilot kindergarten/early childhood education program, having provided data on academic achievement and the benefits of kindergarten experience, should be expanded to encompass the total early childhood education program as North Carolina proceeds into a state supported kindergarten program for all five-year-old children. A committee of the regional early childhood coordinators, SDPI kindergarten/early childhood staff representatives, and the LINC early childhood research associate, prepared, based on both reviews of formal and informal research relating to the program and identified concerns of program decision-makers, a report of research and evaluation recommendations appropriate for inclusion into the research and development design of the early childhood education program. The report was adopted by the early childhood teams of LINC, SDPI and the regional early childhood coordinators and presented to the Superintendent of Public Instruction and the North Carolina Early Childhood Education Steering Committee. Following are excerpts from that report considered by the researcher to be vital issues for future research and development relating to the North Carolina early childhood education program.

1. One percent (1%) of the total kindergarten budget should be appropriated for continued research and development. It is recognized that the federal guidelines on budget expenditures for program evaluation recommend a minimum of 5% and a maximum of 10%; that industry* reportedly spends 10% for research alone; and that during the first four years of the pilot program the state appropriated 2.0-3.5% for research and development.

2. The assessment battery should be continued for a statistically-representative number of randomly selected centers and compared to the state norms for the instruments.

3. The data that has been collected on North Carolina's 5-year olds should be used to compute norms for the state on all relevant variables for comparisons in the future. The norms could be validated and/or updated every three years.

4. The focus for program research and development should be placed on the classroom supported by the program philosophies as compared to the traditional classroom. The philosophies of the North Carolina Early Childhood Program advocate the child-centered concept of education, but a review of the available literature indicates that there is a dearth of research in the field related to the effects of the "open" classroom. The state's early childhood education program is

*According to the Chamber of Commerce's figures on the Research Triangle Park, the money spent for research varies between 8% and 13% of gross company budget, depending on the nature of the company and the need within the organization for a research team.

a ready-made laboratory for such research, and the research, if undertaken carefully, would comprise a major tool for program improvement as it expands. By 1978, when all 85,000 5-year olds in North Carolina will be enrolled in kindergarten, the early childhood staff should be able to support its philosophies with research based on the state program.

5. The following areas should be given top priority in research activities, and the research should reflect the effect of the "degrees of openness" of a classroom on the different areas:

A. Areas of interest
B. Attitude toward school
C. Attitude toward teachers
D. Competition
E. Cooperation
F. Creativity
G. Decision-making ability
H. Independence
I. Problem-solving skills
J. Responsibility
K. Scholastic achievement
L. Self-concept
M. Self-motivation
N. Social interaction with peers.

(It should be noted that some of these areas might be combined in various ways.)

6. The research design should be flexible enough over the next five years to meet the continuing needs of the program and/or staff as the program evolves. Since both the program and the research are in a state of flux, the data collection system should be made easier and more efficient. Information for students, teachers, teacher-aides,

principals and school systems is necessary for the continued evaluation. Researchers from the State Department of Public Instruction, the Learning Institute of North Carolina, colleges and universities, and other research facilities need to be consulted as to what data collection requirements exist, and how the collection and storage of necessary data can be accomplished efficiently.

7. A study comparing exceptional children not excluded from the regular classroom to those in the self-contained special education classroom should be made. This would include the fourteen points previously mentioned.

8. An evaluation of children from the upper primary level (3rd grade) is recommended to determine achievement comparisons from the traditional and open classrooms. This study should include children: who have had no kindergarten experience and are in a traditional classroom; who did attend kindergarten and are in a traditional classroom; who have no kindergarten experience and who are in an open classroom; and who have kindergarten experience and are in an open classroom.

9. Adjustments to the traditional environment on the elementary level after involvement in an open primary program should be studied. Subjects both with and without kindergarten experience should be used in this evaluation.

10. The research and development design should reflect the effects of staff development on the program. The attitudinal study of teachers, teacher-aides and principals in the program should be continued. Observation appears to be the best method for indicating what is going on in the classroom and its use should be extended in the evaluation. Care must be exercised to ensure that changes in teachers and in their classrooms can be related to changes that occur in the children in those classrooms. The design must also be flexible enough to accommodate the changes that occur in staff development activities.

11. The attitudes of parents should be studied. An evaluation of their reactions to the various aspects of the program would be entirely appropriate and prerequisite to a complete understanding of the impact of the program.

APPENDIX A

STANDARDS, POLICIES AND GUIDELINES FOR IMPLEMENTATION OF KINDERGARTEN-EARLY CHILDHOOD EDUCATION IN NORTH CAROLINA

Adopted by the State Board of Education June 1, 1973

In accordance with the provisions of Article 45, Chapter 115 of the General Statutes North Carolina, and upon the recommendation of the State Superintendent of Public Instruction, the following standards, policies, and guidelines are hereby adopted by the State Board Education for the implementation of Kindergarten-Early Childhood Education programs.

. PURPOSES

A. Develop and implement an educational program involving five-year-olds as an integral part of effective educational programs for young children, ages 5-8.

B. Provide effective services in screening, diagnosing, and correcting any deficiencies and handicaps which prohibit normal growth and development.

C. Create an environment in which personalized learning in a continuous progress program is successful for every child.

D. Develop effective training programs for professional and para-professional personnel.

E. Directly involve parents in the development and implementation of such programs.

F. Provide for inter-agency (regional agencies, health, and social services) collaboration and cooperation in serving the needs of young children.

G. Develop appropriate evaluation programs.

H. Disseminate information about the program.

I. ADMINISTRATIVE RELATIONSHIPS, RESPONSIBILITIES, AND PROCEDURES

A. To be eligible for financial support from the State, the program must be administered and supervised by a county or city board of education.

B. "Beginning with the school year 1978-79, in accordance with the provisions of G.S. 115-358, any child who has passed the fifth anniversary of his birth on or before October fifteenth of the year in which he enrolls shall be eligible for enrollment in kindergarten." (Article 45, Chapter 115)

C. For school year 1973-74, each administrative unit will be allocated sufficient resources to operate a minimum of two kindergarten classes composed of 23 children if possible, with a maximum which conforms to the class size legislation (26 maximum). Each subsequent year, beginning with 1974-75, each administrative unit will receive sufficient funds for at least one additional class until its eligible children are enrolled, provided the funds are available.

D. Each administrative unit shall submit a plan for the operation of a Kindergarten-Early Childhood program to the State Superintendent. The plan should include provisions for the following:

(1) Organization of the program, ages 5-8

(2) Process for selecting participants

(3) Locations of centers

(4) Plans for providing staff development

(5) Evaluation procedures

Those administrative units which do not elect to participate in the program should notify the State Superintendent by July 1, 1973, and each subsequent year thereafter and relinquish their funds to be re-allocated.

E. Experimental studies suggest tnat there should be at least two kindergarten classes within a primary school.

F. The length of day for five-year-olds shall be comparable to the length of day for six-, seven-, and eight-year-olds. Any exception to this should be requested in writing to the State Superintendent for approval by the State Board of Education.

G. The compulsory attendance law does not apply to five-year-olds.

II. SELECTION OF CHILDREN

A. Appropriate criteria and procedures shall be established by local boards of education before the selection of children begins. The following factors should be considered:

1. The local boards of education shall identify all eligible five-year-old children in their school system. This list should include name, birthdate, and other pertinent information related to enrollment into kindergarten.

2. When selecting children, local boards of education should consider the availability and location of facilities, the number of eligible children, the transportation system available, appropriate birthdate groupings, and other pertinent educational data.
3. A total of 20 to 26 five-year-old children should be selected for each class allocated.
4. The selection of children shall be made in a non-discriminatory manner.
5. All eligible five-year-old children shall be included in the selection process rather than only those who make application.
6. Selection shall not be made on a first-come, first-served basis.
7. An attempt shall be made to select each class group heterogeneously.
8. Every means possible should be used to announce that kindergarten will be available in selected schools.
9. The selection of children must be in accordance with the Civil Rights Act and ESEA Title I Regulations and Program Directives.
10. Exceptional children should be included in the selection process.

IV. STAFFING

A. A teacher and a teacher assistant (aide) shall be employed full-time for each class.

B. Kindergarten teachers shall be employed under the same terms and conditions as other full-time State-allotted teachers.

C. Each teacher employed in the kindergarten program should hold as a minimum a primary certificate or an early childhood certificate. If they do not hold an early childhood certificate, they should be working toward same at the rate of six or more semester hours per year.

D. One teacher assistant (aide) to work with each kindergarten teacher shall meet local board standards and be compensated according to local board policy and within available funds.

E. Teachers and aides shall be expected to attend appropriate institutes and other training programs which are offered for their improvement.

F. Employment of teachers and teacher aides shall be in accordance with the Civil Rights Act.

V. SCHOOL FACILITIES

A. The kindergarten program should be housed as part of a primary or elementary school.

B. Each administrative unit should provide toilets and storage space that are easily accessible. Classrooms with 1200 to 1500 square feet, their own restroom facilities and work counters with wash basins are recommended in accordance with guidelines of the Division of School Planning.

C. The Division of School Planning should be involved in major renovations of kindergarten rooms.

D. Adequate and well-equipped outdoor areas should be provided.

VI. RESEARCH, EVALUATION AND STAFF DEVELOPMENT

Continuing research, evaluation, and staff development are integral parts of the Kindergarten-Early Childhood Program.

A. The State Agency will establish an ad hoc advisory committee to assist in determining the types of research and evaluation that should become a part of the K-ECE Program.

B. The State Agency shall coordinate, in cooperation with local administrative units, appropriate research and development aspects to continue the improvement of programs.

C. Other research efforts should be coordinated by the State Department of Public Instruction. (This includes universities, foundations, non-profit organizations, and individuals.)

D. Local unit administrators should make provision for staff members to participate in K-ECE staff development activities conducted under the direction of the State Department of Public Instruction and/or local staff development programs. The Division of Early Childhood Education, State Department of Public Instruction, will cooperate with administrative units in organizing and conducting workshops for administrators, teachers, and aides. Announcements of such staff development plans will be made by June 1, 1973, and each subsequent year thereafter.

E. All research and evaluation conducted by the State Department of Public Instruction will be coordinated by the Division of Research in cooperation with the Division of Early Childhood Education.

I. SUPPORT SERVICES

Comprehensive support services requiring the participation of available health, social services, and psychological service agencies should be a part of every kindergarten program.

A. A system of permanent records shall be established initially for every child, and such records shall become a part of the school records system.

B. During the first year of entry into the public schools, health and psychological screening shall be utilized (school health services, school psychological services, school social services) to insure proper individualized program development.

C. Should difficulties interfering with sound educational/social development of any child be encountered, proper referral (cooperative interagency programs and school based services) for action should be carried out immediately.

D. All support services within the school (cafeteria, library, etc.)should be made available to participants on the same basis as for all other students.

I. ADMINISTRATIVE AND CONSULTANT SERVICES

The implementation of these guidelines is under the direction of the State Board of Education through the Department of Public Instruction and its Division of Kindergarten Early Childhood Education.

X. TITLE I, ESEA

A. Administrative units which establish one or more kindergarten classes with Title I funds and one or more kindergarten classes with State and/or local funds must comply with Federal regulations and program directives relative to supplanting and comparability. In such instances, State-funded kindergarten programs must, as a minimum, serve proportionate numbers of students living in project areas and non-project areas.

The percent of five-year-old children, residing in the Title I project areas, to be served by the State kindergarten program shall be at least equal to the percent that these children represent of the total five-year-old population in the local administrative unit.

After such provisions are made, Title I funds can be utilized to provide Title I kindergarten programs.

B. School administrative units which do not elect to participate in the State-funded kindergarten program may not fund kindergarten programs from Title I sources.

X. FISCAL AFFAIRS

A. A sum total of $12,293,784 will be allocated to the 152 administrative units for the purpose of operating and administering kindergartens. This allocation will be based on the Average Daily Membership for the best continuous three out of the first four school months of pupils in the first grade for fiscal year 1972-73.

B. Within the ADM allocation, provisions shall be made to provide funds for a minimum of two kindergarten classes in each administrative unit. Based on the ADM allocation and the proviso of a minimum of two classes in each administrative unit, a detail of the approved allocation to each unit is attached. The funds required for two classes are allotted on a standard budget of $17,942.30 per class in accordance with the Standard Budget attached and made a part of this document by reference thereto.

C. A county and city board of education, subject to the approval of the State Board of Education, may elect not to establish and maintain a kindergarten program. In this situation, within the discretion of the State Board of Education, the funds may be allocated to a county or city board of education which will operate a kindergarten.

D. Funds allocated to the administrative units which remain after meeting requirements of Sections II-C and X-B, may be supplemented by local funds and/or other non-State funds in order to provide one additional standard class.

E. If local or other funds are not available for supplementing State funds in order to establish an additional standard class, the local unit shall advise the Controller, State Board of Education, of the amount of State funds unused under the adopted standards contained herein in order that the allocation of these funds can be withdrawn by the amount remaining. The funds returned from the various units will be available to the State Board of Education for re-allocation, in its discretion, for the operation of additional kindergarten classes on the basis of criteria to be developed and recommended by the State Superintendent and approved by the Board.

F. A separate allocation, over and above the ADM allocation, will be made at the rate of $156 per annum for Hospitalization Insurance and $36 per annum for Disability Insurance for each eligible full-time teacher and aide.

G. A separate allocation, over and above the ADM allocation, will be made at the rate of $250 per annum for each kindergarten teacher who has either an A-13 or a G-14 Certificate Rating.

H. Each unit will submit two copies of a proposed budget to the Department of Public Instruction, Division of Kindergarten-Early Childhood Education for approval. The budget should include the total proposed expenditures for the total number of classes and students to be served in accordance with the standards provided in Sections II-C and X-B. Upon approval by the Department of Public Instruction, one copy of the approved budget shall be transmitted to the State Board of Education, Division of Auditing and Accounting.

I. Transfer of funds within the standard budget may be allowed upon request by the units and approval by the State Department of Public Instruction, Division of Kindergarten-Early Childhood Education, except for funds allotted for Hospitalization and Disability Insurance. A copy of approved budget revisions shall be transmitted to the State Board of Education, Division of Auditing and Accounting.

J. The State Department of Public Instruction shall have responsibility for performing an evaluation and assessment of the Kindergarten Program. In order to provide funds for financing this service at the State level, the State Superintendent shall secure approval of the State Board of Education of the amount. The Controller will advise each administrative unit of its pro-rata share of cost. Each administrative unit will draw a voucher for the invoiced amount, payable to the State Board of Education, and transmit this voucher to the Controller for deposit to the credit of the State Treasurer.

K. The State Department of Public Instruction shall have responsibility for performing an orientation and in-service training program. In order to provide funds for financing this service at the State level, the State Superintendent shall secure approval of the State Board of Education of the amount. The Controller will advise each administrative unit of its pro-rata share of cost. Each administrative unit will draw a voucher for the invoiced amount, payable to the State Board of Education, and transmit this voucher to the Controller for deposit to the credit of the State Treasurer.

L. State-level budgets for the use of funds referred to in Sections J and K above, both as to requirements and estimated receipts, shall be approved by the Board, subject to the approval of the Budget Division of the Department of Administration.

KINDERGARTEN PROGRAM

1973-74

PROPOSED BUDGET FOR ONE CLASS OF 23 KINDERGARTEN CHILDREN

Standard Budget for One Class

672.01	Salaries and Wages a) Kindergarten teachers (1 @ $9,515) b) Non-Professional (1 @ $3,360)	$ 12,875.00
672.02	Matching Retirement	1,152.00
672.03	Matching Social Security	753.00
672.04	Employer's Hospitalization cost $156 per full-time employee (allocated separately at a later date)	
672.05	Employer's Wage Continuation cost @ $36.00 (to be allocated separately at a later date)	
672.06	Instructional Materials (books, paper, toys, classroom supplies, manipulative materials and equipment)	1,120.00
672.07	Travel	352.30
672.08	Orientation and In-service Training and Consultant Services (Workshops for kindergarten teachers continuing in-service training for K-3 teachers, subsistence and parental conferences.)	755.00
672.09	Evaluation and Assessment	107.00
672.10	Transportation ($36.00 per pupil)	828.00
	Total	$ 17,942.30

APPENDIX B

LEARNING INSTITUTE OF NORTH CAROLINA

TEACHER BELIEFS SURVEY (TBS) - Form 1

Adapted by

David Kingsley*

DO NOT WRITE OR MARK ON THIS BOOKLET

INSTRUCTIONS TO EXAMINEES:

The Teacher Beliefs Survey is used for research purposes only in the investigation of teacher beliefs about the teaching-learning process. It is not used for the evaluation of individuals. THERE ARE NO RIGHT ANSWERS. Your responses should reflect what you usually think or how you usually feel. This survey is machine scored. It will be necessary to use a number two lead pencil. You will respond to each statement on the answer sheet using the following six point scale:

Strongly Agree	Agree	Mildly Agree	Mildly Disagree	Disagree	Strongly Disagree

In responding to a statement, first decide whether you agree or disagree. Then mark the response which best identifies the degree of your agreement or disagreement. If this is hard for you to determine, mark either mildly agree or mildly disagree. Work as rapidly as you can. Start as soon as you are given instructions.

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* For the official use of the Learning Institute of North Carolina, 1971. Adapted from "Dimensions of Teacher Beliefs about the Teaching Process," Wehling, Leslie, J. and Charters, W.W. Jr., AERA JOURNAL, January, 1969.

Teacher Belief Survey (TBS)-Form 1 Page 1

1. Children learn best in an atmosphere filled with love and emotional support.

2. A teacher can frequently "reach" a rebellious pupil by taking an intense personal interest in his welfare.

3. An essential component of a good lesson is one of showing how it is related to other areas of knowledge.

4. The essential function of junior high school courses lies in their preparing pupils for later courses.

5. The teacher's ability to see the world as each of his students sees it is an absolute must if he is to have any success at all in teaching.

6. Pupils respect teachers who stand firm on their convictions.

7. In planning their work teachers should rely heavily on the knowledge and skills pupils have acquired outside the classroom.

8. The structure of a field of knowledge is intrinsically interesting to pupils when it is clearly taught.

9. Pupils do their best work when they know exactly what to expect from day to day.

10. In the interest of good discipline pupils who repeatedly disrupt the class must be severely punished.

11. Pupils gain a sense of belonging when the teacher encourages friendships among pupils in the room.

12. Children need and should have more supervision and discipline than they usually get.

13. There is too great an emphasis on keeping order in the classroom.

14. The effectiveness of the teacher depends entirely on the amount of personal interest he can invest in the progress of each pupil.

15. The teacher who organizes the material and presents it to pupils in a forceful way gets the best results.

16. The over-all plan of education suffers when teachers depart substantially from the subject outlined.

17. A properly motivated group of mature students might learn more in a semester's time if they were left entirely to their own resources than if they had a teacher to guide them.

18. Pupils learn best when permitted to set their own pace in doing the work.

19. The teacher assures optimum learning conditions by giving top priority to the social-emotional needs of pupils.

20. The effectiveness of teaching is enhanced when the teacher has the ability to see the world as each pupil sees it.

21. Pupils respect teachers who expect them to work hard in school.

22. Time to choose freely their own activity during the school day is a must for pupil morale.

23. Nothing captures students' interest in school work as quickly as allowing them to wrestle with problems of their own choosing.

24. Pupils learn efficiently the essentials of a subject when every member of the class moves simultaneously through carefully planned lesson sequences.

25. The pupil's knowledge is best developed when teachers interrelate facts and figures from many different subject fields.

26. Pupil failure is averted when mastery of subject matter is the prime requisite for promotion.

27. Teaching of specific skills and factual subject matter is the most important function of the school.

28. The goals of education should be directed by children's interests and needs as well as by the larger demands of society.

29. A firm hand by the teacher promotes emotional security for pupils.

30. Grading pupils separately on achievement and citizenship assures that teachers will insist on mastery of subject matter as well as good behavior.

31. Pupils frequently learn much more under their own initiative than they do under teacher direction.

32. Teachers who like pupils will usually encourage pupil initiation and participation in planning lessons.

33. The backbone of the school curriculum is subject matter; activities are useful mainly to facilitate the learning of subject matter.

34. Teachers who do not like pupils will usually decide on and plan lessons along rather than use pupil participation.

35. The curriculum consists of subject matter to be learned and skills to be acquired.

36. Group activity teaches children to think and plan together, independent of direct supervision by the teacher.

37. In teaching it is quite essential to cover the material in the course of study.

38. The deep interest which pupils sometimes develop in one subject can be valuable to them, but only if teachers succeed in broadening their perspectives across subject matter boundaries.

39. The completion of any worthwhile task in education requires hard work on the part of pupils.

40. Across-the-school routine imposes a consistency in classroom procedure which tends to restrict important avenues for learning.

41. The attitudes learned by a student are often the most important result of a lesson or unit.

42. Learning is essentially a process of increasing one's store of information about various fields of knowledge.

43. Pupils must be kept busy or they soon get into trouble.

44. The most important thing a teacher can do to set the stage for learning is to discover the interests of students.

45. Students who misbehave or do not learn are generally children who need more love.

46. Before pupils are encouraged to exercise independent thought they should be thoroughly grounded in the facts and knowledge about the subject.

47. When giving a choice of activity, pupils generally select what is best for them.

48. The basic function of education is fulfilled only when pupils are led to understand the general significance of the material they have learned.

49. Pupils gain more satisfaction from doing a difficult task well than any other achievement.

50. Children should be given more freedom in the classroom than they usually get.

51. The pupil's impression of the teacher's personality greatly influences what he learns.

52. Teachers must set definite items aside to show pupils the relationships between their subject and the overall goal of education.

53. Teachers increase their chances of directing the work into productive channels by having pupils participate in the planning.

54. Teachers must always be prepared to explain to pupils inter-relationships among various elements of the overall curriculum.

55. The use of sarcasm by the teacher can accomplish nothing but emotional harm for the pupil.

56. Pupils master the essentials of a subject only when extensive plans are made for accommodating individual differences in pupils.

57. Pupils never really understand a subject until they can relate what they have learned to the broader problems of the world.

58. Good rapport with pupils is maintained by the teacher who always finds time to help individuals with special problems.

59. Nothing stimulates a pupil to apply himself more diligently than a warm, personal interest in his progress shown by the teacher.

60. Skills should not be taught in a uniform manner to all children.

61. Teachers take themselves too seriously.

62. Teachers can be effective without diagnosing individual students.

63. Even with its difficulties, teaching is very rewarding.

64. All children learn in the same manner.

65. Teachers need the skills to identify learning styles in students.

66. Teachers are the molders of society.

67. A given child does not have multiple styles of learning.

68. It is best to rely on the textbook when teaching a class of children.

69. Learning should usually be facilitated by the use of manipulative materials.

70. Teaching stifles the teacher's ambition.

71. It is not necessary in effective teaching to use many different areas of student interest.

72. Teaching is usually a monotonous job.

School_____ Teacher_____

Classroom_____ Date_____

QUESTIONNAIRE *

Instructions: For each of the following statements, circle the number which most closely expresses your estimate of the extent to which the statement is true of your own classroom. If the statement is absolutely not the case, circle "1"; if it is very minimally true, choose "2"; if the statement general describes your classroom, choose "3"; and if it is absolutely true, choose "4".

	strongly disagree	disagree	agree	strongly agree
1. Texts and materials are supplied in class sets so that all children may have their own.	1	2	3	4
2. Each child has a space for his/her personal storage and the major part of the classroom is organized for common use.	1	2	3	4
3. Materials are kept out of the way until they are distributed or used under my direction.	1	2	3	4
4. Many different activities go on simultaneously.	1	2	3	4
5. Children are expected to do their own work without getting help from other children.	1	2	3	4
6. Manipulative materials are supplied in great diversity and range, with little replication.	1	2	3	4
7. The day is divided into large blocks of time within which children, with my help, determine their own routine.	1	2	3	4
8. Children work individually and in small groups at various activities.	1	2	3	4
9. Books are supplied in diversity and profusion (including reference books, children's literature).	1	2	3	4
10. Children are not supposed to move about the room without asking permission.	1	2	3	4
11. Desks are arranged so that every child can see the blackboard or teacher from his/her desk.	1	2	3	4
12. The environment includes materials I have developed.	1	2	3	4

*From H. J. Walberg and S. C. Thomas, Characteristics of Open Education: Toward an Operational Definition (Newton, Massachusetts: TDR Associates), May 1971.

	strongly disagree	disagree	agree	strongly agree
13. Common environmental materials are provided.	1	2	3	4
14. Children may voluntarily use other areas of the building and schoolyard as part of their school time.	1	2	3	4
15. Our program includes use of the neighborhood.	1	2	3	4
16. Children use "books" written by their classmates as part of their reading and reference materials.	1	2	3	4
17. I prefer that children not talk when they are supposed to be working.	1	2	3	4
18. Children voluntarily group and regroup themselves.	1	2	3	4
19. The environment includes materials developed or supplied by the children.	1	2	3	4
20. I plan and schedule the children's activities through the day.	1	2	3	4
21. I make sure children use materials only as instructed.	1	2	3	4
22. I group children for lessons directed at specific needs.	1	2	3	4
23. Children work directly with manipulative materials.	1	2	3	4
24. Materials are readily accessible to the children.	1	2	3	4
25. I promote a purposeful atmosphere by expecting and enabling children to use time productively and to value their work and learning.	1	2	3	4

School_____ Observer_____

Classroom_____ Date_____

Teacher_____

CLASSROOM OBSERVATION RATING-SCALE*

	No evidence	Weak infrequent	Moderate occasional	Strong frequent evidence
. Teacher uses test results to group children for reading and/or math.	1	2	3	4
. Children expect the teacher to correct all their work.	1	2	3	4
. Teacher bases her instruction on each individual child, and his/her interaction with materials and equipment.	1	2	3	4
. Teacher gives children tests to find out what they know.	1	2	3	4
. The emotional climate is warm and accepting.	1	2	3	4
. The work children do is divided into subject matter areas.	1	2	3	4
. The teacher's lessons and assignments are given to the class as a whole.	1	2	3	4
. To obtain diagnostic information, the teacher closely observes the specific work or concern of a child and asks immediate, experience-based questions.	1	2	3	4
. Teacher bases her instruction on curriculum guides or text books for the grade level she teaches.	1	2	3	4
. Teacher keeps notes and writes individual histories of each child's intellectual, emotional, physical development.	1	2	3	4
. Teacher has children for a period of just one year.	1	2	3	4
2. The class operates within clear guidelines made explicit.	1	2	3	4
3. Teacher takes care of dealing with conflicts and disruptive behavior without involving the group.	1	2	3	4
4. Children's activities, products and ideas are reflected abundantly about the classroom.	1	2	3	4

*From H. J. Walberg and S. C. Thomas, Characteristics of Open Education: Toward an Operational Definition (Newton, Mass.: TDR Associates), May 1971.

SROOM OBSERVATION RATING-SCALE

	No evidence	Weak infrequent	Moderate occasional	Strong frequent evidence
The teacher is in charge.	1	2	3	4
Before suggesting any extension or redirection of activity, teacher gives diagnostic attention to the particular child and his/her particular activity.	1	2	3	4
The children spontaneously look at and discuss each other's work.	1	2	3	4
Teacher uses tests to evaluate children and rate them in comparison to their peers.	1	2	3	4
Teacher uses assistance of someone in a supportive, advisory capacity.	1	2	3	4
Teacher tries to keep all children within her sight so that she can make sure they are doing what they are supposed to do.	1	2	3	4
Teacher has helpful colleagues with whom she discusses teaching.	1	2	3	4
Teacher keeps a collection of each child's work for use in evaluating his/her development.	1	2	3	4
Teacher views evaluation as information to guide her instruction and provisioning for the classroom.	1	2	3	4
Academic achievement is the teacher's top priority for the children.	1	2	3	4
Children are deeply involved in what they are doing.	1	2	3	4

LINC CLASSROOM OBSERVATION SCALE

Teacher's Name _____

Teacher Code_____ Grade Level_____

(If multiage, give grades combined or ages.)

Date of Observation_____

Check as appropriate: _____1=PRE _____2=POST

District_____ Center Number_____

School Name_____

OBSERVER'S COMMENTS:

USE OF MULTI-MEDIA TEACHING

M1 Reference materials are available in classroom for use by both teacher and pupils. (E.g.: encyclopedias, dictionaries, world atlases, supplementary texts, supplementary books, etc.)

A	B	C	D	E
0 types	1 type	2 types	3 types	4 or more types

[Definition: "by both teacher and pupils" -- We realize that this is a value judgment, but make your best judgment. E.g., if the record player is on the top of a cabinet, closed, it could probably be assumed that this was not available for use by first grade students; or, if the encyclopedias are in a cabinet on the top shelf, it would also be questionable whether first graders could get them when needed.]

M2 Maps, charts, globes and other models are available in the classroom for use by both teacher and pupils.

A	B	C	D	E
0 types	1 type	2 types	3 types	4 or more types

[Definition: "models" -- This can be a clock, a skeleton, thermometer, etc.]

M3 Teacher-made materials such as charts, games, and other aids, are available for use by both teacher and pupils. (Note: this does not include student work.)

A	B	C	D	E
0 types	1 type	2 types	3 types	4 or more types

M4 Newspapers, magazines, catalogues, telephone directories, etc., are available in classroom for use by both teacher and pupils.

A	B	C	D	E
0 types	1 type	2 types	3 types	4 or more types

M5 Pupils' work is on display.

A	B	C	D	E
0 displays	1 display	2 displays	3 displays	4 or more displays

M6 Audio-visual materials are available in the classroom for use by both teacher and pupils.

A	B	C	D	E
0 types	1 type	2 types	3 types	4 or more types

[Definition: "audio-visual materials" -- By this we mean physical equipment, such as filmstrips, 16mm film, tape recorder, record player, etc.]

USE OF INTRA-CLASS GROUPING*

I1 The physical arrangement of the room allows for varying kinds of activity.

A	B	C	D	E
1 type	2 types	3 types	4 types	5 or more types

[Definition: "varying kinds of activity" -- individual, partner, small groups (3-4), large groups (more than 4 but less than entire class), entire class; examples would be a rug area for reading groups or relaxed reading, two desks together for partner work, a table or desks pushed together to form a table-like arrangement, chairs in circle or semi-circle, etc.]

I2 Groupings change.

A	C	E
0 change	1 change	2 changes

[Definition: "groupings change" -- By this is meant that the actual construction of the groups changes; e.g., 3 children in one group mix with 6 children in another group forming two new groups, individual work changes to small group and large group work, etc.

I3 Pupils help each other with work.

A	B	C	D	E
0-10% of class	11-20%	21-30%	31-40%	more than 40% of the class

I4 Teacher maintains check on progress of class by moving among groups.

A	B	C	D	E
0-20% groups reached	21-40%	41-60%	61-80%	more than 80% of groups reached

I5 Pupils move freely about the room.

A	B	C	D	E
0-10% of class	11-15%	16-20%	21-25%	more than 25% of the class

*A group may consist of as few as one or as many as the whole class.

DIFFERENTIATING ASSIGNMENTS

D1 Pupils have individual assignments.

A	B	C	D	E
0-20% of class	21-40%	41-60%	61-80%	80-100% of class

[Definition: "individual assignments" -- We don't really expect that each individual will have a different assignment, but rather that the assignment will be tailored to the individual; evidence of this would be individual folders, individual cards, contracts, etc.]

D2 Pupils use materials at different levels of difficulty.

A	B	C	D	E
1-2 levels	3-4 levels	5-6 levels	7-8 levels	9 or more levels

[Definition: "levels" -- This does not necessarily imply that students are in 9 or more books, but rather that they are at 9 or more levels within differing books; e.g., one student on page 2 in a given book and another student on page 50 in the same book would count as two levels.]

D3 Pupils receive individual assistance from teacher or aide.

A	B	C	D	E
0-10% of class	11-20%	21-30%	31-40%	more than 40% of the class

D4 Pupils do enrichment (broadening, horizontal) work.

A	B	C	D	E
0-10% of class	11-15%	16-20%	21-25%	more than 25% of the class

[Definition: "enrichment" -- This implies that the students are doing work on their own levels which will broaden their knowledge at these levels rather than extend them into more difficult work; contrast with accelerate.]

D5 Pupil participation is active and purposeful as indicated by pupil involvement in work.

A	B	C	D	E
0-20% of class	21-40%	21-60%	61-80%	81-100% of class

PROMOTION OF INDEPENDENCE FROM DIRECT SUPERVISION IN LEARNING

S1 Groups, independent of direct supervision (IDS), are employed.

A	B	C	D	E
0 groups	1 group	2 groups	3 groups	4 or more groups

[Definition: "IDS" -- This indicates that the teacher is not sitting or standing directly with the pupils and directing their every move; an example of directly supervised activities would be a reading group.]

S2 Pupils not involved in directly supervised activities move freely among groups.

A	B	C	D	E
0-20% IDS pupils	21-40%	41-60%	61-80%	81-100% IDS pupils

S3 Pupils involved in IDS activities work individually and/or independently in groups.

A	B	C	D	E
0-20% IDS pupils	21-40%	41-60%	61-80%	81-100% IDS pupils

[Definition: With this statement we are trying to get at whether the students are actually doing meaningful activities without the teacher or are they "goofing off."]

S4 When pupils finish one task, they proceed to another task without teacher direction.

A	B	C	D	E
0-20% of those finishing	21-40%	41-60%	61-80%	81-100% of those finishing

S5 Pupils seek aid from more than one source (e.g., other textbooks, dictionaries, encyclopedias, etc.).

A	B	C	D	E
0-10% IDS pupils	11-20%	21-30%	31-40%	41% or more IDS pupils

S6 Teacher is aware of what is going on in IDS groups, as evidenced by observer questions at end of activity (period).

A	B	C	D	E
0-20% IDS groups	21-40%	41-60%	61-80%	81-100% IDS groups

CLIMATE SCALES

Circle one number on each dimension of each scale.

Teacher							
1. Aloof	1	2	3	4	5	6	Responsive
2. Nonunderstanding	1	2	3	4	5	6	Understanding
3. Harsh	1	2	3	4	5	6	Kindly
4. Erratic	1	2	3	4	5	6	Steady
5. Evading	1	2	3	4	5	6	Responsible
6. Disorganized	1	2	3	4	5	6	Systematic
7. Dull	1	2	3	4	5	6	Stimulating
8. Stereotyped	1	2	3	4	5	6	Original

Student							
1. Social Hostility	1	2	3	4	5	6	Positive Social Behavior
2. Negative Task-oriented Behavior	1	2	3	4	5	6	Positive Task-oriented Behavior
3. Uncooperative	1	2	3	4	5	6	Cooperative
4. Unresponsive	1	2	3	4	5	6	Responsive
5. Uninterested	1	2	3	4	5	6	Interested
6. Discontented	1	2	3	4	5	6	Contented

Classroom							
1. Restricted	1	2	3	4	5	6	Open
2. Hostile	1	2	3	4	5	6	Friendly
3. Tense	1	2	3	4	5	6	Relaxed